mental health digest

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cover story

The Second National Display of Patient Art by the American Psychiatric Museum Association was held in Washington, D.C. on October 14 through December 1968. Most psychiatric hospitals offer occupational therapy as part of the treatment program, and some hospitals have separate art therapy programs. Occupational therapy uses arts and crafts to encourage patients to express themselves creatively. Sometimes a patient's feelings are revealed in a painting or figurine, or his progress in treatment is reflected in his work. But for most patients occupational therapy provides a means to enhance their self-esteem through creative achievement and to develop better relationships with other people through their interactions with the therapists and other patients.

Although many of the works in the Display were done in occupational therapy classes, some were done independently by patients and a few by patients no longer hospitalized. What they have in common is their artistic merit. They were chosen by a distinguished panel of judges who rated the entries not on the basis of psychiatric significance but purely on their merits as works of art.

mental health digest

The *Mental Health Digest* is a monthly publication of the National Clearinghouse for Mental Health Information of the National Institute of Mental Health. Designed to reflect the whole spectrum of mental health and to present a broad sampling of scientific subject matter and professional points of view, it contains condensations of selected journal articles, reviews, Federal and State program documents, and other pertinent material.

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Some Psychological Reactions to Working With the Poor

ARTHUR W. MCMAHON and MILES F. SHORE

For several years, we have observed students at Tufts University School of Medicine as they make house calls in deteriorated sections of the inner city. Although teaching is concerned with medical aspects of the student's experience, there is emphasis on socioeconomic and psychological factors. Social scientists teach about cultural, economic, and sociological aspects of lower-class life. Housing, welfare, and urban affairs are discussed.

The impact on every group is to produce a depression. The students seem unaware that they are depressed. One expects students to talk about how depressing it is to see people trapped in the poverty cycle. Instead, they accept the stereotype of the poor as happy-go-lucky, self-indulgent manipulators, and reinforce this opinion with incomplete observations and rationalization.

Denial of their own depression is also the foundation upon which more complex reaction patterns involving projection, denial, and rationalization are built. Three patterns are clear: punitive, rejecting; over-identified; apathetic indifferent.

The punitive rejecting pattern—In every group there are students who blame the poor as irresponsible, self-indulgent schemers who cheat the taxpayers by manipulating welfare. Their recommendations for remedies involve strong measures—cutting off Aid for Dependent Children to illegitimate children, forcing welfare recipients to work, and separating children from parents.

The punitive, rejecting pattern interferes with the student's ability to function successfully in several ways. It prevents him from seeing crucial aspects of his patients' lives—depression, economic and social deprivations, and role of social and economic forces beyond the patients' control. At times the reaction is close to denial of tangible realities. The rejection of the poor prevents the establishment of an empathic relationship; the student is unable to generate the rapport necessary to take an adequate history. These students are easy prey to the unconscious manipulations of patients who need to provoke attack or punishment. They retaliate against patients who miss appointments, fail to follow instructions, or call with trivial complaints by rejecting them or making inappropriate aggressive efforts to examine or treat them.

The pattern is a common initial reaction which gives way in most students to a more realistic response.

The overidentified pattern—A second pattern is characterized by protective and apologetic attitudes toward the poor, depicting them as victims of an unfeeling, persecutory social system.

Condensed with permission from the *Archives of General Psychiatry*, 18 (5) :562-568, 1968.

The overidentified reaction leads to difficulties in the students' functioning. Because of the need to blame society, they are unable to pay attention to intrapsychic factors. Because they tend to equate diagnosis of character and neurotic problems with criticism of the poor, they have difficulty observing and integrating psychological data with the rest of the patients' lives.

The overidentified pattern copes with the student's feeling of helplessness by putting distance between himself and the "poor, down-trodden" patient, or may lead in some to an aloof and superior attitude rather than overinvolvement. The student projects his own helpless feelings onto the patient and directs his anger against society.

The withdrawn, apathetic pattern—We have less data on this pattern since students showing it tend to disappear from our teaching sessions. They say less, surreptitiously read the newspaper, or bring up diversionary topics. They become apathetic, look bored and disinterested, and then stop coming.

Certain students at an earlier stage show an extreme form of the rejecting, punitive pattern. Withdrawal and apathy were the end stage of the failure of this pattern to cope with the situation. Occasional students seem overwhelmed from the beginning and settle quickly into apathy and withdrawal without the development of intermediate patterns to cope with depression.

Since we are teachers, we attempted didactic rather than psychotherapeutic techniques. We find that it is useful to help the group verbalize the depressed feelings. Just the acknowledgment seems to be helpful in allowing them to see facets of the situation which they blot out in order to maintain defensive attitudes.

We adopt various maneuvers to help the students broaden their perceptions. First is a manipulation of their identification. In one group the discussion boiled over in indignation that people on welfare could openly try to "beat the system." The instructor asked if this might be characteristic of many situations in which an individual had to deal with an organization, for example, the student dealing with his medical school. The students rejected the analogy, insisting that they had to work for what they got and were entitled to it "even though the faculty doesn't think so." With this remark, the similarities became clearer and they began to laugh at the ways in which they work to beat the system.

It took considerable thought to decide when the similarities could be commented upon to open up healthy identification rather than to arouse anxiety and resistance. There are times when we let opportunities slide: a student angrily said that he was working hard, delaying birth of children, etc. to pay for "those people on welfare." It came out that he was being put through school by his wife's working. Sensing the personal conflict, we did not call attention to the distortion in his statement.

A second technique relies upon the student's commitment to science and facts. Nearly every group discusses those people who are faking, being paid for laziness, for begetting illegitimate children, etc. The students are assigned to look up the categories of people eligible for welfare, amount of money involved, and the kinds of changes

recommended by various authorities. The instructor emphasizes that social questions are similar to medical questions in that facts are available and relevant to a decision.

We believe these stresses, while in some ways specific for medical students, have general relevance for young middle-class professionals in other disciplines.

A Psychiatric Contribution to Alleviating Hard-Core Unemployment

JOHN S. VISHER and M. ROBERT HARRIS

In 1963, an opportunity center was opened in a segregated public housing area of San Francisco to explore the utility and feasibility of providing employment services to applicants from poverty areas who had severe employment and other problems.

The staff found that they needed help in understanding and dealing with the problems and a request for consultation was made to the Langley Porter community mental health training program. This program offers basic and advanced training for psychiatrists and psychiatric residents, clinical psychologists, predoctoral psychology students, social work students, and medical students. After negotiation of arrangements, a consultant who was a trainee began consultative sessions with the staff. He discussed his consultation with and received supervision from the staff of the training program.

The consultant usually acted as a facilitator of group discussion, encouraging the consultees to look at the problems presented and to clarify the problems of the job applicants as well as their own difficulties in understanding and working with them. He helped the group to focus on their work problems and did not encourage them to dwell on personality factors of other staff members or administrators.

The consultant attempted to clarify problems in layman's terms, not advocating a particular psychiatric theory or technique. He seldom suggested referral to mental health clinics or other psychiatric facilities, stressing that such facilities do not have "the answers" either.

Group consultation centering on the *problems of individual clients* was infinite in variety. In one session, a case was presented of a man who entered the office with a chip on his shoulder. Because his antagonistic manner caused discomfort in the interviewer, he was transferred to a counselor who was more skilled in interviewing techniques. The new counselor was equally uncomfortable and conveyed the impression that he was eager to be rid of the applicant. The consultant helped the group to discuss the handling of this problem, using such techniques as sympathetic listening and not pushing for information early in the interview.

Those staff groups which ap-

Condensed with permission from the *American Journal of Psychiatry*, 124 (11): 1505–1514, 1968.

peared to be more comfortable with feelings and a lack of structure in their involvement with the consultant tended to use the consultation time to discuss *staff relationships* and to express feelings about administrative problems.

In one instance, a consultant was asked to meet with a staff group which had very poor *morale*. There were complaints about the lack of understanding supervision and the demands which the staff felt were being made for evidence of successful performance as measured by the number of jobs obtained for applicants. It was clear that a gap existed between the expectations of the manager as understood by the employment personnel and their actual performance. Their clients were especially difficult, and if even a small percentage obtained jobs, the result was worthwhile.

A problem presented by all staffs was one which derived from the nature of their work and tendencies to become involved with applicants whose problems were serious and frustrating. Often they invested much effort in helping a young person, only to have him fail to keep a job interview appointment or even to disappear for months.

With frequent failures, the staff experienced feelings of futility and inadequacy. Tensions engendered by these feelings are often expressed in the form of anger at "the system," the higher-ups in the employment service, or fellow employees.

Consultation gave staff an opportunity to explore such feelings and to share them with colleagues and consultant, who helped them to be more objective and to comprehend the reasons behind their reactions.

Another type of consultation was *educational* with a focus on concepts of mental health, sources of referral, etc. Discussion of cultural characteristics of applicants also proved helpful.

The managers differed in their reaction to the consultation. They expressed anxiety by forgetting sessions, experiencing difficulty calling the group together on time, or dominating the sessions with discussion of routine office business. They would limit discussion by directing staff to prepare cases for presentation to the consultant or asking him to present a didactic lecture. Most managers were appreciative of the sessions and felt that they and their staffs had been helped.

The staff differed also. Some looked forward to the sessions while others found excuses to be absent. Some preferred all sessions to be didactic. They would ask for lectures on mental illness, resources in the community, and what to do about applicants who had been hospitalized. Others wished to use the group for personal therapeutic purposes.

We face the problem of measuring the changes, if any, which have resulted from our professional intervention. Our impression is that most staffs have benefited in terms of relaxation of tension, discovery of more effective ways of working together, increased confidence in their ability to be of help, and greater understanding of emotional problems. Whether any applicants have found jobs that they would not have found otherwise is not possible to say. But the response of the staffs has been enthusiastic and they usually wish to continue the consultation experiences.

Non-Neurotic Neurotics

MAURICE J. BARRY, JR.

I wish to discuss those patients who might be called nonneurotic neurotics because the first symptoms of their systemic disease may be misdiagnosed as emotional illness.

Endocrine Disorders

Specific endocrine disorders, because of slow and insidious onset, often go undiagnosed while the patient is regarded as a troublesome hypochondriac.

"General languor and debility, remarkable feebleness of the heart's action, irritability of the stomach" are included in one classic description of a disease. Patients may complain of loss of ability to concentrate, drowsiness or irritability; they may be complaining and demanding, never satisfied. They may be apprehensive, panic-stricken, negativistic, and depressed. The improvement that follows correct diagnosis and 24–48 hours of steroid therapy indicates otherwise. The diagnosis? Addison's disease.

Frequent attacks of weakness, pallor, tachycardia and trembling inside, with a sense of impending disaster, may indicate anxiety neurosis, or these symptoms may indicate spontaneous hypoglycemia.

Hyperthyroidism may manifest itself by an altered psychic state, irritability and difficulty in interpersonal relations, with secondary depression as well as that form of depression seemingly part of the disease itself. The psychic symptoms of increasing outbursts of rage, impatience, and quarreling may be present long before the physical stigma of Grave's disease.

Only occasionally are instances of myxedema referred to psychiatric attention before the diagnosis is made. The physical and emotional symptoms are well known, and the lassitude, depression, fatigability, and slowing of mental activity respond so well to thyroid therapy that psychiatrists usually see only those patients who also have psychotic reactions. However, the onset of myxedema often is so insidious that the physical changes go unnoticed and the complaints may be ascribed to emotional conflict.

Because of the manner in which a patient describes numbness and tingling of the fingers and toes, this symptom often is thought to be stocking-glove anesthesia or paresthesia, usually referable to conversion hysteria. When the same patient complains of perioral tingling and numbness, not being able to breathe deeply enough, muscular twitching and jumping, and leg cramps causing insomnia, it is not surprising that hypoparathyroidism goes undiagnosed and the patient is treated as neurotic.

Hyperparathyroidism also may be misdiagnosed as globus hystericus or psychogenic vomiting when the patient complains of difficulty in swallowing, substernal distress, and a strange kind of nausea and vomiting. This is even more likely if other emotional symptoms of the disorder, such as apathy, depression, and sluggishness, are prominently displayed.

The symptoms of Cushing's syndrome may develop over a period

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of months. Psychologic symptoms may appear first, with sudden shifts in mood, loss of libido, difficulty in concentrating, and impaired memory. Patients feel different and begin to look different as the moon face, buffalo hump, and abdominal obesity progress. Their emotional reaction to these bodily changes may mask those signs which would point to the correct diagnosis.

Paroxysmal attacks of throbbing headache, severe anxiety, palpitation, visual blurring, nausea and vomiting may seem indicative of anxiety neurosis. Searching tests may disclose evidence of pheochromocytoma, with relief after surgical removal of the tumor.

Other Systemic Diseases

Certain patients give a history of undue nervousness, neurasthenia, and mild hysteria, with episodes of more severely disturbed behavior and transitory psychosis. They may complain of chronic constipation and persistent but vague abdominal pain. Such patients may have undergone abdominal explorations and a thyroidectomy to no effect. If barbiturates are prescribed, symptoms and complaints seem to increase. In such patients the diagnosis may be porphyria.

Routine laboratory blood studies revealing macrocytic anemia often have indicated the need for other confirmatory tests for primary pernicious anemia which had been misdiagnosed as chronic neurosis because of the weakness, complaints of sore tongue, and the tingling hypesthesias and paresthesias of the lower extremities.

Mental depression often requires psychiatric treatment. Patients who have involutional depression usually have gastrointestinal complaints, loss of weight, weakness, fatigue, insomnia, and anorexia. We have seen several patients in whom a conscious awareness of all the subjective symptoms of anxiety, loss of ambition, and a premonition of serious illness were the most prominent complaints. Later, abdominal pain and jaundice have developed from the original carcinoma of the body of the pancreas. Depression is quite specific in pancreatic carcinoma and often is the first complaint.

Diseases of the Central Nervous System

Patients who have diseases of the central nervous system commonly have psychiatric symptoms, but these symptoms often are masked by subtle changes in personality. Deeper lesions of the brain may produce alterations in posture, facial expression, and muscular behavior which suggest the presence of an emotional disorder.

A critic once defined a psychiatrist as a physician who has forgotten all the medicine he learned and is practicing psychology for which he was never trained. Many of us are so determined to give the lie to this cynicism that we are alert to insure that undiagnosed medical and surgical ailments will not be passed off as neuroses. We often turn up nonneurotic neurotics in whom a specific organic illness has presented as a symptom complex suggestive of emotional disturbance. Our nonpsychiatric colleagues do more, and I am sure that psychiatrists are not asked to see the majority of the nonneurotic neurotics because the correct diagnosis is made, thus negating the need for psychiatric consultation.

Hemispheric Specialization: A Possible Clue to Mechanism

JOSEPHINE SEMMES

That man's cerebral hemispheres exhibit differences in function is known, but there has been little research into how this can be.

The best established difference is in language, for which the left hemisphere plays the predominant role. The right hemisphere appears to be important in perception, particularly its spatial aspects. There is evidence for hemispheric dissimilarities pertaining to the two hands, and it is these forms of asymmetry that may contain a clue to a possible mechanism of specialization. These asymmetries are of two sorts: one is a difference in contralateral and the other in ipsilateral function. The oldest example of contralateral functional asymmetry is handedness. Asymmetry of ipsilateral function is exemplified in the claim by neurologists that lesions of the left hemisphere may produce ipsilateral as well as contralateral effects on the hands, whereas right hemisphere lesions are typically followed by strictly contralateral effects.

Is it true that the differences involve only mechanisms of complex behavior and that the hemispheres are completely symmetrical in elementary functions? This conception seems unlikely, since it leaves us with no understanding of how complex mechanisms can be built up if they are not somehow synthesized out of simpler ones. The alternative view is that the hemispheres differ not only in mechanisms of complex behavior but also in processes dealing with input and output. It is hypothesized that differences at these simpler levels are indicative of a contrast in neural organization which favors hemispheric specialization.

Condensed with permission from *Neuropsychologia*, 6 (1) :11–26, 1968.

Asymmetry in Contralateral Sensorimotor Processes

The data come from an investigation of brain function in somesthesis. Subjects were 124 war veterans who had incurred penetrating brain injuries (36 bilateral, 44 left, and 44 right), and the control subjects were 33 veterans with peripheral nerve injuries of the legs.

We tested sense of passive movement, touch-pressure thresholds, two-point discrimination, and point localization. In the two unilateral lesion groups, the incidence and severity of deficits of the contralateral hand were about equal, which seemed in line with evidence that the groups were similar in the proportion of subjects with injury to the sensorimotor region (the pre- and postcentral gyri plus the remaining parietal region posteriorly). When we investigated deficits in sense of passive movement from the point of view of locus of lesion, we found that deficits were more frequent after sensorimotor than after nonsensorimotor damage, regardless of which hemisphere was injured. With the three cutaneous tests, it turned out that the question had a different answer for the right and left hands. For the right hand, the incidence and severity of deficits were maximal after lesions of the left sensorimotor region. For the left hand, deficits were not related to lesions of the right sensorimotor region.

Failure to find significant regional localization in the right hemisphere derives in part from the seemingly greater effectiveness of right than left nonsensorimotor lesions and in part from the lesser apparent effectiveness of right than left sensorimotor lesions. Touch-pressure sensitivity provided the extreme example of absence of localization in the right hemisphere, but the indication of a more diffuse representation of sensation in the right hemisphere than in the left was a constant finding for all these tests.

Results similar to those on sensation were obtained for certain motor reactions of the hands. Strength was affected by lesions of corresponding loci in left and right hemispheres. The right hand suffered much more as a result of sensorimotor than of nonsensorimotor lesions of the contralateral hemisphere, whereas the left hand showed no such selective vulnerability.

We also tested reflexes of the fingers (tendon jerks and Hoffmann's sign). For the right hand, the incidence of reflex changes was maximal after left sensorimotor lesions; these changes occurred more often after lesions of the precentral gyrus. For the left hand, this gradient was attenuated: although the contralateral effect of right precentral lesions was the same as that of left, the contralateral effects were slightly greater for right than for left postcentral or posterior parietal lesions, and markedly greater for right than for left nonsensorimotor lesions. Both with respect to the hemisphere as a whole and with respect to the sensorimotor region, there appears to be a less focal representation of reflex function in the right hemisphere than there is in the left.

Asymmetry in Ipsilateral Sensorimotor Processes

The question regarding ipsilateral function is whether the hemispheres differ not only quantitatively, but also in the manner in which the function is represented. On the basis of findings that the hemispheres differ in the way they represent contralateral function, one might predict that they would differ in the way they represent ipsilateral function. But if so, would the difference be linked to the hand or to the hemisphere? More concretely, is the right hand, which is focally represented in the left hemisphere, likewise focally represented in the right? Or, does the right hemisphere, which represents the left hand in a diffuse manner, likewise represent the right hand diffusely?

Our data support that latter alternative. The right hand is impaired much more frequently by sensorimotor than by nonsensorimotor lesions of the left hemisphere, a result which implies a focal representation. These findings favor the view that the asymmetries in the effects of lesions are expressive of a difference in the fundamental organizational plan of the right and left hemispheres.

Asymmetry in Complex Function

Evidence that complex function may be focally represented in the left hemisphere and diffusely in the right comes from studies on spatial orientation. Impairment on a test of orientation is related to parietal lobe injury, and the impairment is associated with defective somatic sensation. These findings are in line

with the traditional view: after damage to the parietal lobe, it is not uncommon to find sensory impairment, deficiencies in dealing with spatial relationships, or both.

Our data brought to light two surprising facts. Impaired orientation was related to locus of injury (posterior parietal) only for left hemisphere lesions, not for right. Again we have evidence for concentration of function on the left, diffuseness on the right. In contrast, it was the right hemisphere cases which showed the association between impaired orientation and sensory defect.

What might it mean for hemispheric specialization if the functional organization of the two hemispheres differs along the lines proposed here? Before answering this question, an example will be given which illustrates how asymmetry in representation may bring about results which simulate dominance.

Asymmetry and Pseudo-dominance

In the focally-organized hemisphere (F), even a small lesion, if crucially placed, will produce deficit, whereas in the diffusely organized hemisphere (D), a similar lesion will have less or no effect, and the same will be true for any small D lesion, regardless of its location. For a unitary function investigated with relatively small lesions, F will seem to be the dominant hemisphere. Only massive or complete lesions of F and D will produce similar effects and distinguish this condition from true dominance.

If one considers a more complex form of behavior, the D hemisphere may seem to be the dominant one. This will be so because lesions of different loci in F can disturb one factor without having any effects on the others, whereas lesions in D will disturb all or several of the factors concomitantly, if the damage is sufficiently extensive, or will fail to disturb any of the factors. Thus, the most severe deficits in the behavior, as well as the least effects on it, will result from D lesions.

Focal Representation as a Mechanism of Left Hemisphere Specialization

It is important to consider how differences in intrahemispheric organization might bring about true dominance.

There is evidence that the organization of language in the brain parallels the organization of sensorimotor function for the hand which is dominant with a restricted and unilateral representation if the right hand is dominant and a diffuse and even bilateral representation if the left hand is dominant.

If the hemispheres differ in the principle of representation of elementary functions, this difference might be the basis for true hemispheric dominance at higher levels of function. One might assume that the more complex coordinations characterizing the higher centers are brought about by convergence of lower-level units. Where there is a higher concentration of units representing a particular part at one level, the convergence of these units upon those of the next level would bring about a more precise coding of the input and would make possible a more finely modulated control of the output. This finer control could be based on concentration of similar input elements, and also on an analogous concentration of similar output ele-

ments. The development of such precise control of the articulatory apparatus may provide an optimal substrate for speech representation in the left hemisphere.

If focal representation is the basis of left hemisphere dominance, it suggests that the qualities which distinguish man from lower animals—capacity for language and symbolic thought—are based on the phylogenetic trend toward increased localization of function and that the left hemisphere has proceeded farther than the right in this direction. Second, it supports the notion that there is a connection between handedness and speech.

Diffuse Representation as a Mechanism of Right Hemisphere Specialization

If specialization of the left hemisphere is based on focal representation of sensorimotor functions, what is the basis for the specialization shown by the right hemisphere? One possibility is that right-hemisphere dominance is specious, and that phenomena taken to indicate it are artifacts of partial, although extensive, lesions of each hemisphere.

Another possibility is that right-hemisphere dominance is based on focal representation of functions, but that the functions are different for the two hemispheres. This notion suggests that the brain mechanisms underlying spatial abilities, at least, should be concentrated in the right hemisphere.

A more likely possibility is that a diffuse organization may actually confer an advantage for spatial abilities. It may not be accidental that animals lower than man, in which localization of function has not proceeded so far, may equal or surpass man in topographical orientation. In contrast to functions which may depend on a high degree of convergence of like elements, spatial function might depend on convergence of unlike elements—visual, kinesthetic, vestibular, and perhaps others—combining in such a way as to create through experience a single supramodal space.

EEG and Mental Abilities

WILLIAM VOGEL, DONALD M. BROVERMAN, and EDWARD L. KLAIBER

Investigations of EEG-intelligence relationships have been hampered by a rigid adherence to traditional approaches. Previous studies have compared intelligence estimates to EEG measures obtained during rest; EEG measures obtained during intellectual effort would more likely be related to cognitive measures.

Also at issue is the question of which is more likely to be related to EEG measures: general intellectual ability or particular aspects of intellectual ability. No studies have been reported of the relationships of EEG to cognitive style. The cognitive style with which this paper is concerned, the Automatization Cognitive Style, is defined as greater ability (strong automatization) or lesser ability (weak automatization) to perform simple repetitive tasks than might be expected from the individual's general level of intellectual performance on a battery of heterogeneous tasks.

It would also seem appropriate to broaden the concern of the EEG-intelligence studies by investigating relationships between intelligence and EEG measures other than occipital leads.

The First Study

Thirty-six male students participated; age averaged 19.4 years.

EEGs were obtained while the subject lay prone with eyes closed. Three conditions were employed in the following order: rest for a period of five minutes; simple subtractions; difficult subtractions. Data were employed only from the left occipital and left parietal lobes. Five EEG measures were computed from each lead: slow wave index; alpha and beta index; and alpha and beta frequency.

The subjects were individually administered a battery of 17 cognitive tests prior to the EEG session. The data were factor analyzed by a method that differentiates within-individual variance from between-individual variance.

Analysis of the within-individual variance yielded an automatization factor directly related to good performance on some tasks, and inversely related to good performance on others. Tasks on which good performance is directly related to the automatization factor are simple repetitive tasks (e.g., naming color hues), and those inversely related to the automatization factor (perceptual-restructuring tasks) require inhibition of immediate responses to obvious attributes of stimuli, in favor of other less obvious attributes (e.g., the Witkin Embedded Figures Test).

EEG and cognitive style—Between-individual variance is reflected by a score which represents an individual's mean performance on the 17 tests as compared with other individuals, and may be considered an index of "general intelligence." Automatization was unrelated to slow wave index, alpha index, and alpha frequency in all conditions, in both leads. Automatization was inversely related to beta index in the parietal lobe during rest, during difficult subtractions, and over the course of all three con-

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ditions of the study. Automatization was also inversely related to occipital and parietal beta frequency during rest, to occipital beta frequency during difficult subtractions, and to total occipital beta frequencies across all three experimental conditions. Strong automatizers, then, evidenced less beta and slower beta than did weak automatizers.

EEG and general level of ability—The measure of general level of ability was not related to any EEG variable.

Cognitive and experimental task performance—Automatization was directly correlated with items attempted on the difficult subtractions task. General level of ability was directly related to number of items attempted on the difficult subtractions task, number of items correct on the difficult subtractions task, and inversely related to the time required to complete the simple subtractions task.

EEG and experimental task performance—Alpha frequency during simple subtractions was inversely related to efficient performance on the simple subtractions task and was not related to performance on the difficult subtractions task.

Slow wave index, alpha index, beta index, or beta frequency during the simple or difficult subtractions tasks was unrelated to performance on either the simple or difficult subtractions task.

The Second Study

Twenty-five male volunteers averaging 16 years of age participated.

EEG and cognitive style—Automatization was associated directly with slow wave index; inversely with alpha frequency; directly with beta frequency; and inversely with beta index, during the difficult subtractions task. Only alpha index was not significantly related to automatization.

EEG and general level of ability—None of the correlations between general level of ability and the EEG measures was significant.

Cognitive and experimental task performance—Automatization was directly correlated with items attempted on difficult subtractions. General level of ability was directly related to number of items attempted and number of items correct on difficult subtractions.

EEG and experimental task performance—Performance on simple and difficult subtractions was not related to alpha index, beta index, or beta frequency measures, but slow alpha frequency and high slow wave index were related to efficient performance on difficult subtractions. Parietal alpha frequency was inversely related to number of items attempted and number of items correct on the difficult subtractions. Occipital alpha frequency was inversely related to items correct on difficult subtractions but unrelated to items attempted.

Significant correlations were found between high occipital slow wave index during difficult subtractions, and number of items attempted and number of items correct on difficult subtractions. Performance on the simple subtractions task was not related to alpha frequency or to slow wave index during task performance.

Relation of Slow Wave Index and Slow Alpha Frequency to Cognitive Style

The relationships in the younger sample between slow wave index and good performance while the EEG is being taken are relevant to

the findings on increments in slow wave activity during periods of mental effort. Slow waves in such instances have been interpreted as inhibition of attention or even drowsiness. It is difficult to understand why EEG signs of sleep or relaxation should be associated with effective mental performance.

It would seem logical to postulate the existence of two kinds of behavioral inhibition, both of which are represented by slow waves. "Class I inhibition" would refer to a gross inactivation of an entire excitatory process which results in the induction of a relaxed, less active behavioral state, as in sleep, or as in the inhibition of previously learned behavioral acts. "Class II inhibition" would refer to a selective inactivation of particular responses so that a continuing excitatory state becomes directed or patterned, as in the facilitation through practice of a behavioral act to the point that the act becomes overlearned or automatized. While Class I inhibition suppresses entire response systems, Class II inhibition suppresses inappropriate response tendencies within an activated response system.

In this view the presence of slow waves during periods of performance in which old responses are being practiced or improved would indicate Class II inhibition. Class II inhibition is conceived of as accompanying the execution of automatized, or well-learned and over-practiced, behavioral acts.

Class II inhibition and automatization are presumed to be reflections of the same endocrinological influences upon the central nervous system. A basic physiological substance underlying automatization of behaviors in males is apparently testosterone which inhibits monoamine oxidase in rat hypothalamic tissue. Monoamine oxidase inhibitors induce increased stores of neural norepinephrine. Increased neural norepinephrine may contribute to the slow waves.

Automatization Cognitive Style and Beta Index

A significant negative relationship between the Automatization Cognitive Style and the amount of beta activity present during the difficult subtractions task was found in both samples.

Beta may represent a process of cortical activation, called the "orienting response," such that beta appears when stimuli are perceived as novel, and disappears with habituation or problem solution. Automatization should result in the disappearance of beta activity, since there is no longer need to reorient.

Strong automatizers also showed less beta during this task, which suggests that the strong automatizers were better able to automatize their method of dealing with the task, did not need to reorient themselves constantly to it.

This study suggests that particular EEG indices bear specific relationships to particular cognitive factors. Combining several cognitive factors to produce an overall index could conceal significant but opposing EEG-cognitive factor relationships, and so produce an array of nonsignificant correlations between EEG measures and the composite index of intelligence.

The Effects of Two Patient Behaviors Upon Psychiatric Nurses' Ratings of the Patient

WILLIAM G. BYE and MARTHA E. BERNAL

Nursing notes and reports influence decisions regarding a patient's course of hospitalization, milieu treatment, medication, hospital privileges, recommendations for discharge, transfer to another hospital, or continued hospitalization in the same hospital.

Just as the nurse's statements about a patient may be critical determinants of what happens to the patient, so too may the patient's statements and other behavior toward the nurse determine what she says about him.

This research evaluated the effects of patient behaviors along the dimension of personal warmth and interest and cold indifference upon ratings of the patient by the nursing staff. A patient acted as an accomplice to the investigators, and the subjects were psychiatric nursing staff who were unaware of the collaborative relationship between the patient and investigators. The setting was a 24-bed adult inpatient unit in a large public psychiatric hospital.

The instrument was a behavioral rating scale, designed for this study, consisting of 16 pairs of adjectives of opposite meaning arranged on a continuum from one to seven.

The cooperation of two psychotic patients was enlisted. One was a 33-year-old married female, diagnosed as manic-depressive and hospitalized for three months. The other refused to continue the data collection and her results were not included in the findings.

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Instructions given to the accomplice were:

The study will take place over a four-day period, and you will have to approach the nurse in a certain way during a two-hour period. Next week I will be meeting with you four times a day and will ask you to approach two different nurses after we meet. Each time, you will approach one nurse in a cool and reserved fashion, and one nurse in a warm and friendly manner. You will only maintain the instructed approach for two hours, and the rest of the time you can act any way that you wish. The approach will probably only have to be maintained during the 15 minutes that the nurse interacts with you. The nurses have been instructed that they must interact with you for this length of time. It solves the problem of your approaching them when you are being cool. It is imperative that you stick to the approach we plan during the meeting I have with you. I don't want you to talk to anyone but your doctor about what we are doing, since to do so might invalidate the whole study.

Instructions for a positive approach were:

Be warm and friendly to the nurse. You can do this best by showing interest in what she tells you and not disagreeing with her. Nod your head in agreement and smile at her a lot. Give her compliments about her hair or anything that she is wearing that you think could be complimented that you might not usually mention. Don't overdo it or make it sound sticky or false. Make a concerted effort to make the nurse feel that you like her without coming out and saying so. Otherwise, go about your business and act as you usually do toward the other staff and patients on the ward. Now let us practice this approach. You imagine that I am the nurse and you are making an approach to me.

Suggestions for a negative approach were:

Today I want you to be cool and reserved to the nurse. You can do this

best by not smiling at her and by showing no emotion in response to her questions. Don't be nasty to her, but generally give her the impression that you would rather not be bothered with talking to her. If she sits with you, let her initiate any conversation that occurs. If she talks with you for a long period of time, turn slightly away from her and look off into space. Otherwise, go about your business and act as you usually do toward the other staff and patients on the ward.

Now let us practice making this approach. I will approach you and you will be cool and reserved to me.

The nurses were approached as a group at daily ward report on the day the study was to begin. The following statement was used to gain their cooperation:

I have been collecting data for my thesis for the past month and have been working with [the two patient accomplices]. I am going to be working with the patients four times a day for the next four days, and I would like to have records of their behavior after each time that I work with them.

On each day four meetings were held between the patient and the experimenter. Following each meeting, during a two-hour period, the patient approached two nurses, using a positive approach for one and a negative approach for the other. By the end of the fourth day each of the 11 nurses had experienced a positive and negative approach and completed a rating of the patient's behavior on the scale provided.

The results indicated that ratings of the patient's behaviors were a function of the manner in which the patient approached the nurse. When the nurse was approached in a negative manner, she tended to rate the patient's behavior in a negative direction. She gave the patient higher ratings for adjectives such as "defensive," "anxious," etc. During the positive condition the nurse tended to view the patient in a more positive manner, and gave her higher ratings for adjectives such as "calm," "accepting," "insightful," "appropriate," and "tolerant."

It may be that these reactions are legitimate in that they are reasonable in view of the patient's behavior. If a patient behaves in a hostile manner, staff as social beings are likely to respond in accord. Focusing upon the patient's behavior and the social consequence it produces may be more fruitful for formulation of effective treatment procedures than reporting that the patient is less "cooperative" or more "inappropriate." If a patient acts in an unfriendly, negative manner, it might be useful to isolate the effects of his unfriendly behavior upon specific aspects or persons in his social environment, and attempt to manipulate the negative behavior by producing social consequences (such as indifference) other than those he typically produces. This approach is being used successfully by a large number of investigators in the treatment of a broad range of maladaptive behaviors.

One sidelight was the fact that a patient diagnosed as manic-depressive was able to behave in such a variable manner with 11 different people. The diagnostic label of manic-depressive implies that the mood behavior is invariable and relatively nonsusceptible to change by external manipulation. That the influence of her approaches to the nurses was exerted during a very short time is still more remarkable.

The Taboo of Suicide

RUSSELL NOYES, JR.

Suicide is a tabooed subject not to be discussed except in the comfort of the context that considers it a sign of mental illness. It is a legal offense in only nine States but is often cited in insurance policies as a basis for excluding benefit payments and leads to refusal of religious funerals in many instances. It implies an element of family disgrace. Students of suicide suspect that suicides themselves use methods which make death appear accidental. Physicians find it difficult to ask patients whether or not they are contemplating suicide.

Is not the physician doubly fearful of suicide? He shares the universal fear of death and has in death a professional enemy. In the face of death his skills are rendered impotent and he may be confronted with the most bitter and agonizing suffering. Many a physician finds difficulty in conceiving of suicide other than as a product of psychosis or a miscalculated gesture. In recognizing this tendency to relieve the suicide of responsibility, one must ask whether a metaphysical problem has been simplified or reduced to one of clinical medicine. Does the physician, while supporting his culture's values, also perpetuate its fears?

In primitive societies suicide was socially sanctioned as an acting out of the mourning process. Prominent in this type of suicide can be seen the primitive man's belief in immortality and the joining of spirits beyond the grave.

One motive among primitive cultures was anger and revenge; a socialized modification is hara-kiri. The offended Japanese commits hara-kiri at the doorstep of the offender, who in turn is subjected to social disfavor.

Aside from such institutionalized forms, suicide was taboo among primitive peoples, and to these ancient taboos one can trace the roots of fear and revulsion toward self-destruction in later times.

Writings from the classical age provide an opportunity to study individual suicides and the influence of reason and philosophy upon the phenomenon. There were suicides for honor and dignity. Behind such deaths was the belief in man as a noble animal that should not be reduced by infirmities. Also of this type were suicides by women who wished to preserve their chastity and warriors who refused to fall into the hands of the enemy. A second type involved love or loss of love, and was similar to the suicide of mourning. Sacrificial suicide occurred, committed by one who believed that his own death would advance his cause, party, or family. Jocasta's suicide upon her discovery that Oedipus was her son and husband's murderer was regarded as a natural action to which no blame was attached; no other sacrifice could have proved her good faith.

In philosophies accepting suicide, there was emphasis on the importance of the individual and upon reason. The dignity of the human personality need never be sullied, for man's last and most faithful ally, death, would never desert him.

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The attitude toward suicide that has evolved is broad in its implications. The first involves physicians directly; the second often concerns physicians indirectly but is related to changing motivations for the self-destructive act.

The care of the suicidal has increasingly been turned over to practitioners of the healing arts. No matter how the doctor may judge suicide, he is responsible for predicting the serious suicidal attempt—society so charges him.

The most important indicators are the patient's own statements of his consideration of suicide, regardless of the integrity of his personality. In times of stress death wishes and suicidal thoughts are so common that a complete and strenuous disclaimer can occasionally cause concern. The physician should be alert to: strong identification with or hope of rejoining someone deceased; intense rage with avenues of expression blocked; a marked degree of impulsivity; and inexpressible grief. Of increasing seriousness are statements referring to plans for suicide, means for carrying it out should the desire become strong, and definite intention to kill oneself.

Previous attempts increase the likelihood of future ones. The physician must inquire about the events preceding those attempts, and about the precipitating circumstances, the intent, and the result, in terms not only of the individual's response of guilt, relief, disappointment, but also of the reaction of spouse, family, or friends. Such a list of danger signals could be extended but the doctor should remind himself that one of suicide's characteristics remains a degree of unpredictability.

Perhaps the implications of the prevailing attitude toward suicide become more significant when one looks at the physician as therapist. His anxiety may be reflected in management of his patient. He may hospitalize the person who threatens to destroy himself, instead of giving him the curative personal relationship he is seeking; such action may deprive the patient of the opportunity to resolve a crisis by means of his own resources. Worse, the therapist's anxiety is communicated to the patient, and exerts a detrimental influence. No matter how physicians regard suicide, some persons at times feel that it is a solution to their life situation. As such it demands frank discussion. Anxiety in the physician may interfere with his pursuit of this line of inquiry by making him fearful lest he suggest the thing he seeks to prevent.

It is the duty of physicians to prevent suicide. But when family or religious objections do not apply, does the physician have the right to impose his judgment in that which is a patient's own affair? A doctor is often blamed for a suicide; in addition, he is vulnerable to an injury to his professional prestige and self-respect. Under these circumstances it is the rare physician who could be expected to step outside of and act with freedom from the limiting viewpoint of his time. As he makes the assessment that suicide is probable, his responsibility increases for communication of this knowledge to appropriate members of society so that steps can be taken to prevent it. But because of society's view, most physicians are restrained from communicating questions of a sort which they might legitimately ask, namely,

given the individual's system of values, could not suicide under certain circumstances be adaptive or self-realizing for this particular person?

Hatred or revenge in suicide often requires a special approach. Whether the potentially self-destructive individual is encouraged to proceed or is held back often depends upon the degree to which he senses that the act would achieve the desired hurtful end. The patient's family often encourages the patient in the direction of ending his life. Such an attitude may be one of rejection, but more often it is an ambivalent one. The physician must maintain a lookout for these family forces prodding his patient toward taking his own life; if he senses their existence and believes he cannot alter them, the physician might attempt to separate his patient from them. The suicidal person is also fully aware that the therapist is vulnerable to feelings of guilt, and the patient may find this an impetus for seizing upon suicide for the expression of rage. The physician should remind his patient, himself, and the patient's family that he cannot carry the entire burden of responsibility for the life of his patient.

But is there inherent or potential value in this act or is suicide a holdover from less civilized societies? Just as man through his capacity to appreciate time is the only animal able to conceive of death, so also he may be the only one with the potential of ending life if he chooses. What is the significance of the choice which suicide seems to open to each human being? It has been said that unless a man can choose death he cannot truly commit himself to life. Is it not demeaning to preserve life at any cost, as though death were an enemy? Judgment of the act of suicide, however, is possibly of lesser concern than the welfare of society, which may be affected by the taboo. The current effort to prevent suicide, which weakens the suicide taboo by identifying the act as illness, may paradoxically result in a rise in its incidence.

History reveals a close relationship between the attitude toward suicide, its frequency, and type of social organization. In closely integrated, autocratic societies the incidence has been low and the attitude severe, whereas in more individualistic, democratic societies the reverse has been true. The difference in incidence may be accounted for not only in terms of a prohibitive attitude in more rigid, less self-reliant societies, but also by the fact that in these societies authority, tradition, and custom have provided answers to life's problems and have shared its burdens. Society, in support of its basic organization, is perhaps forced to adopt a particular position with respect to this act.

Only the surface is scratched by such considerations as these. Suicide, like other aspects of death, remains a mystery.

Orthomolecular Psychiatry

LINUS PAULING

Orthomolecular therapy is the treatment of mental disease by the provision of the optimum molecular environment for the mind, especially the optimum concentrations of substances normally present in the human body. An example is the treatment of phenylketonuric children by use of a diet containing a smaller than normal amount of phenylalanine.

The proper functioning of the mind requires the presence in the brain of molecules of many different substances. E.g., mental disease, usually associated with physical disease, results from a low concentration in the brain of any one of the following vitamins: thiamine, nicotinic acid, pyridoxine, cyanocobalamin, biotin, ascorbic acid, and folic acid. Mental function and behavior are also affected by changes in the concentration in the brain of a number of other substances that are normally present, such as L(+) - glutamic acid, uric acid, and γ-aminobutyric acid.

The optimum molecular concentrations of substances normally present in the body may be different from the concentrations provided by the diet and the gene-controlled synthetic mechanisms, and, for essential nutrilites different from the minimum daily amounts required for life or the "recommended" amounts suggested for good health.

Evolution and Natural Selection

The process of evolution does not necessarily result in the normal provision of optimum molecular concentrations. Ascorbic acid is an example. Of mammals that have been studied, the only species that have lost the power to synthesize ascorbic acid and that require it in the diet are man, certain other Primates, the guinea pig, and an Indian fruit-eating bat. Presumably loss of the gene (s) controlling the synthesis of the enzyme (s) involved in the conversion of glucose to ascorbic acid occurred some 20 million years ago, in each case in an environment such that ascorbic acid was provided by the food. For a mutation rate of 1/20,000 per gene generation and for even a very small advantage for the mutant, the mutant would replace the earlier genotype within about one million years. The advantage of being rid of the ascorbic-acid-synthesis machinery might well be large. Even if the amount of the vitamin provided by the diet available at the time of the mutation were less than optimum, the mutant might still be able to replace its predecessor. It is possible that the environment has changed during the last 20 million years so as to provide a decreased amount of the vitamin. Even a serious disadvantage of the changed environment would not lead to a mutation restoring the synthetic mechanism within a period of a few million years, because of the small probability of such mutations, far smaller than of those resulting in loss of function.

The process of natural selection may be expected to lead to the survival of a species that synthesizes somewhat less than the optimum amount of an autotrophic vital

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substance rather than one that synthesizes the optimum amount. To synthesize the optimum amount requires about twice as much biological machinery as to synthesize half the optimum amount.

Many mutant microorganisms are known to require, as a supplement to the medium in which they are grown, a substance that is synthesized by the corresponding wildtype organism (the normal strain). An example is the pyridoxine-requiring mutant of *Neurospora sitophila.*

Molecular Concentrations and Rate of Reaction

Most of the chemical reactions in living organisms are catalyzed by enzymes. The mechanisms of enzyme-catalyzed reactions involve the formation of a complex between the enzyme and a substrate molecule and the decomposition of this complex to form the enzyme and the products of the reaction. The rate-determining step is usually the decomposition of the complex to form the products, or, more precisely, the transition through an intermediate state of the complex, characterized by activation energy less than for the uncatalyzed reaction, to a complex of the enzyme and the products of reaction, with a rapid dissociation.

The rate of an enzyme-catalyzed reaction is approximately proportional to the concentration of the reactant, until concentrations that largely saturate the enzyme are reached. The saturating concentration is larger for a defective enzyme with decreased combining power for the substrate than for the normal enzyme. For such a defective enzyme the catalyzed reaction could be made to take place at or near its normal rate by an increase in the substrate concentration.

Molecular Concentrations and Mental Disease

The functioning of the brain and nervous tissue is more dependent on the rate of chemical reactions than the functioning of other organs and tissues. I believe that mental disease is caused by abnormal reaction rates, as determined by genetic constitution and diet, and by abnormal molecular concentrations of essential substances. Significant improvement in the mental health of many persons might be achieved by the provision of the optimum molecular concentrations of substances normally present in the human body. Among these substances, the essential nutrilites may be the most worthy of research and clinical trial. One example is vitamin B_{12}, cyanocobalamin. A deficiency of this vitamin leads to mental illness, often more pronounced than the physical consequences. The mental illness associated with pernicious anemia often is observed.

Nicotinic acid cured thousands of pellagra patients of their psychoses, as well as of the physical manifestations of their disease. More recently other investigators have reported on the use of nicotinic acid and nicotinamide for the treatment of mental disease.

Another vitamin used in the treatment of mental disease is ascorbic acid. Mental symptoms (depression) accompany the physical symptoms of vitamin-C deficiency disease (scurvy). It is my opinion that many schizophrenics have an increased metabolism of ascorbic acid, presumably genetic in origin, and that the ingestion of massive amounts of ascorbic acid has some value in treating mental disease.

Other vitamins—thiamine, pyridoxine, folic acid—and other substances—zinc ion, magnesium ion, uric acid, tryptophan, L (+) – glutamic acid, and others—influence the functioning of the brain.

Localized Cerebral Deficiency Diseases

Under certain circumstances a deficiency disease may be localized in the human body in such a way that only some of the manifestations usually associated with the disease are present. Let us consider, e.g., an enzyme or other vital substance that is normally metabolized by the catalytic action of an enzyme normally present in the tissues and organs of the body. In a person of unusual genotype there might be an especially great concentration of this enzyme in one body organ, with essentially the normal amount in other organs. Through the action of this enzyme in especially great concentration the steady-state concentration of the vital substance in that organ might be decreased to a level much lower than that required for normal function. Under these circumstances there would be present a deficiency disease restricted to that organ. An especially important case is that of the brain.

This leads to the possibility of a localized cerebral avitaminosis or other localized cerebral deficiency disease. Some human beings may have a sort of cerebral scurvy, without any other manifestations, or a sort of cerebral pellagra, or cerebral pernicious anemia. Every vitamin, every essential amino acid, every other essential nutrilite represents a molecular disease which our distant ancestors learned to control, by selecting a therapeutic diet, and which has continued to be kept under control in this way. The localized deficiency diseases are also molecular diseases, compound molecular diseases, involving not only the original lesion, the loss of the ability to synthesize the vital substance, but also another lesion, one that causes a decreased rate of transfer across a membrane, such as the blood-brain barrier to the affected organ, or an increased rate of destruction of the vital substance in the organ, or some other perturbing reaction.

It has been suggested that schizophrenia is caused by a dominant gene with incomplete penetrance. The reported success in treating schizophrenia and other mental illnesses by use of massive doses of some of these vitamins may be the result of successful treatment of a localized cerebral deficiency disease involving the vital substances, leading to a decreased penetrance of the gene for schizophrenia. There is a possibility that the so-called gene for schizophrenia is itself a gene affecting the metabolism of one or another of these vital substances, or even of several vital substances, causing a multiple cerebral deficiency.

I suggest that the orthomolecular treatment of mental disease should involve the thorough study of and attention to the individual, such as is customary in psychotherapy but less customary in conventional chemotherapy. In the course of time it should be possible to develop a method of diagnosis (measurement of concentrations of vital substances) that could be used as the basis for determining the optimum molecular concentrations of vital substances for the individual patient and for indicating the appropriate therapeutic measures to be taken.

Introductory Aspects of Modern Parapsychological Research

GARDNER MURPHY

The transition from a prescientific to a scientific level of investigation and conceptualization is apparent in parapsychology. While authenticated and systematized observations are still worth gathering, the movement is toward the definition of psychological and physiological parameters relevant to the appearance of telepathy and related phenomena, with as much replication and utilization of physical theory as the experimenter finds feasible. While many laboratories in the U.S., Western Europe, and the Soviet Union are working on these problems, replication is rare and difficult, both experimentally and conceptually.

It will take multiple methods to crack so difficult a problem—developmental, clinical, ecological, all combined with the experimental. In time the cross-articulation of observations from many methods will be strong enough to get the great bulk of scientists interested. Until then, progress depends on system and patience, the training of young scientists interested in the field, and above all, the development of replicable experimental methods.

Since we are dealing with phenomena whose energy base is unknown, that is, whose relation between stimulus situation and organismic response cannot now be specified, we are inevitably asked questions about modern physical theory. The physics of today is not ready to offer suggestions. What will be the physics of tomorrow? My suggestion is that we are dealing with "rubber-sheet" effects, in which the spatial and temporal relations of stimulus and response are non-Euclidean. In the meantime, restless, active exploring minds are not going to call a moratorium on investigation.

The physicists do not think we are dealing with "radiant energy," though Soviet investigators have made the most of this possibility. Just as a matter of empirical fact, psychological parameters, the factors of personality, attitude, emotional preoccupation of subjects and of experimenters, turn out, in the best controlled studies, to be the most immediately useful. Let us find, by all means, all parameters that we can use. One of the great advantages of physical approaches is that even when they yield little by way of immediate experimental techniques, they will certainly lead toward the automation of the methods of presenting and recording stimulus materials, as well as organismic responses. They will help us to compare infants, children, young adults, and older people; to compare men with women; to compare animals at various phylogenetic levels; as well as to record the psychophysiology of the responses.

Where do we stand today? I will reply to three questions: What are the best working hypotheses? What are the best research methods? What is the overall best strategy for the development of parapsychology?

Regarding the first question, a central hypothesis which has been rather well confirmed, but needs further confirmation, is: that the

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readiness of the subject to perceive, as gauged by his wish to perceive, and the intensity of his set or readiness, has the same kind of effect in parapsychology as in normal psychology; the same conditions making for strong motivation, lowering thresholds, increasing organizing power, etc., in perceptual situations seem likewise relevant in extrasensory perceptual situations. Since life is largely a question of interaction, facilitations, and inhibitions, primary importance attaches to the removal of inhibitions. Relying as we do on our senses most of the time, we have a resistance to admission of information from other sources, as well as specific resistances, in the psychoanalytic sense, against the particular content of each message which may be threatening, disturbing, or disorienting. Consequently, the hypothesis arises that freedom from inhibiting circumstances is of primary weight in freeing the individual for paranormal responses.

Regarding research methods, it is now clear that enduring personality attributes interact with specific momentary psychological conditions, and that the methods are to be derived from developmental approaches, as known to biology, physiology, psychiatry, and the whole panoply of disciplines which look at perception and action as functions of broad, temporally defined parameters, and not momentary manipulatable situations. The best method is one which integrates all life sciences that are relevant to a given act of perception. Extrasensory phenomena are relevant as to the seeking, scanning, assimilating, using, integrating dynamics of the individual, as to the sheer sense perception aspects. The best method is the one which is most inclusive.

What is the strategy? It is certainly one which shows the openness which all studies of creativity emphasize: the eagerness to turn toward and make sense, rather than to flee, from that which fails to fit into the schemata of today. It involves suspension of judgment, discipline in the cautious ordering of data, and even more discipline in the formulation of working constructs as to how data are interrelated. Such a strategy involves selecting and training people who have this degree of curiosity and patience, together with this degree of discipline, and the high level of creativity which goes with exceptional scientific endeavor. We are trying to find such people, and they are trying to find the terms of reference in which they can grow freely, and their bizarre, new ways of working can be respected. They will have to be scientists in spirit, but know how far they are from achieving the mature structure of the established sciences.

They will have to look in unexpected places, seek out communication with other investigators, and leave no stone unturned in the search for those replicable methods which will admit the cross-checking of data from different laboratories, and the ultimate articulation of parapsychological with other types of organized scientific information. The challenge is very great. New areas of investigation presenting stray observations, not assimilated to those that are already codified, have always been the turning points in the history of science.

A Case of "Autostasis" or Reverse Autokinesis

MICHAEL WERTHEIMER

One night a lawyer was hunting near Badlands National Monument. He lit his flashlight intermittently to keep track of his dogs. He reported that about 11:30 P.M. he saw a dim object in the sky, approaching from the northwest. Suddenly it stopped and turned on a bright light, directed at him. The light hovered motionless for about 15 seconds, then went out, and the object started moving again, at right angles to its path of approach, disappearing to the northeast.

A companion was about 100 yards east. He reported that an object with a dim red light appeared from the northwest, stopped, turned a searchlight on him, hovered for several seconds, turned its light off, then moved off to the northeast.

The lawyer's wife was in a truck about one-half mile north. She reported that an object with red lights approached from the west, going due east. When it got near the truck, it stopped and turned on a strong white light, directed at the truck. The light stayed on and stationary for about 3 seconds, then the light was turned off and the object resumed motion along a straight-line course, disappearing to the east.

A rancher in a truck about one-quarter mile north of the other truck saw a strong light appear in the sky northwest of him, and move eastward, then disappear.

One witness reported a sound on approach, but none during hovering or departure, another a sound only during hovering, another a sound during hovering and departure but not during approach, and the fourth no sound at all.

A second rancher, about 10 feet from the lawyer, thought he saw and heard a twin-engine plane approach from the northwest. As it came close it turned on a strong searchlight, directed towards him and the lawyer. The plane continued on its easterly course, turned its light off, and disappeared over the northeastern horizon.

A check at a nearby Air Force Base revealed that a twin-engine plane, equipped with a powerful, movable searchlight, had left the base a few minutes earlier, heading east-southeast. Just before takeoff, the pilot was overhead to say, "Let's see if we can't spook some UFO reports." The pilot had seen intermittent flashlights, and while flying east-southeast trained his searchlight for some 10 seconds on the region from which the lights had come. Then he turned off the searchlight and continued on his course. Clearly this case belongs in the file on the psychology of testimony and its unreliability.

The first three witnesses reported that the object was stationary all the time that the light was on. This phenomenon of "autostasis" appears to be the opposite of autokinesis, in that a single bright stimulus in a highly impoverished, ambiguous frame of reference (the dark sky), with actual physical motion, was seen as stationary, while in autokinesis a stationary single stimulus light in an ambiguous frame of reference is seen as moving.

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Chromosome Studies on Men in a Maximum Security Hospital

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An examination of the nuclear sex of 942 men in two English hospitals for dangerous, violent, or criminal patients of subnormal intelligence showed 21 to be singly chromatin-positive. Chromosome studies showed that seven of the 21 had an XXYY complement. This high proportion appeared in sharp contrast to the findings in newborn males and in males in ordinary hospitals for the mentally subnormal. It seemed possible that the extra Y chromosome might influence the behavior of XXYY males so that the frequency of this form of abnormal sex-chromosome complement might be increased among those showing such antisocial conduct. If this were so, then it might be the case that males with an XYY complement would be unusually frequent among men of this class.

To test this hypothesis it was necessary to study the chromosomes of males segregated in conditions of special security for dangerous, violent, or criminal behavior; this was done at the State Hospital at Carstairs in Scotland. The hospital contains two wings: one with mainly patients of subnormal intelligence, the other mainly patients of average or above intelligence.

During the study (June 1965-March 1966) there were 342 male patients in the institution: 249 had been admitted from the courts and 93 transferred from other institutions; all but 10 had criminal records. Twenty-seven men refused to cooperate, so results are based on 315 men.

A blood sample was obtained in the course of a routine medical examination. If the patients declined to cooperate, they were approached some weeks later, and if they declined again they were classified as refusals.

Ten suitable dividing cells were selected and the chromosomes counted and analyzed by direct microscopical observation. Every cell which deviated from normal either in respect of the chromosome count or the analysis was checked by a second observer, and in every individual who was suspected of having an abnormal chromosome constitution a minimum of a further 20 cells were counted and analyzed. A second sample was obtained from every patient with a chromosome abnormality; the results confirmed the findings in the first sample.

The patients with an abnormal chromosome constitution were investigated further. A buccal smear was examined for sex chromatin, and for some patients with an abnormal sex chromosome constitution buffy coats of peripheral blood leucocytes were examined for the presence of polymorphonuclear leucocyte appendages.

Of the 315 men, 16 were found to have a chromosome abnormality. Of these, nine had a 47,XYY chromosome constitution, one had a 47,XXY chromosome constitution, one was a 46,XY/47,XXY/48, XXXY mosaic, one had a 48,XXYY

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chromosome constitution, while the remaining four had abnormalities of the autosome: two had a 45,X, Y,D–D–t (DqDq) + chromosome constitution, one had a 46,XY,t (1?–; 16?+) and one a 46,XY, Gq– constitution. A further seven patients had a minor abnormality of their chromosomes.

The most remarkable feature of the survey has been the discovery of nine men with an XYY sex chromosome constitution. The age distribution of the nine XYY males does not differ significantly from that of the 315 men studied.

The XYY males had no obvious physical abnormalities, but their mean height was considerably greater than the mean height of the 305 men at the hospital known to have a single Y chromosome. Tallness was not associated with any condition recognized to lead to increased stature, so either XYY males are on average taller than XY males, or there are factors linked to the means of disposal of XYY males with criminal records by the courts which lead to segregation into the State hospital and presumably comparable hospitals elsewhere. The latter suggestion seems unlikely.

The distribution of intelligence among the XYY males does not differ from that of all males studied, but it is interesting that the 27 who refused to cooperate were more intelligent than the hospital population as a whole. As no difference in this respect was demonstrated between XY and XYY males at the State hospital and as impaired intelligence is one of the factors considered in the selection of patients for this hospital, it is not possible to judge what effect the possession of an extra Y chromosome might have on intellectual capacity. It would seem that it does not result in marked impairment of intelligence, as two of the nine XYY males are assessed as being of average intelligence while the others have only a mild degree of mental subnormality.

The frequency of XYY men in the general population is not known, but is seems certain that it must be much lower than that found in the present survey.

The finding of three chromatin-positive men is not unexpected when the intelligence of the patients at the State hospital is considered. It is well established that on average one percent of males in ordinary hospitals for the mentally subnormal are chromatin-positive, and there is evidence to indicate the frequency to be greater among high-grade defectives.

Four men were found with autosomal structural heterozygosity but any assessment of the significance of these to the behavior of their carriers requires a study of their families and a comparison of their frequency with the frequency of structural heterozygotes in the ordinary population. If examination of larger numbers of men from similar hospitals shows a raised frequency of heterozygotes, then some of these abnormalities could have some association with behavioral disturbances.

Some Effects of Delay of Punishment on Resistance to Temptation in Dogs

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Delay of punishment is a major variable determining the effects of punishment on the extinction of a specific instrumental response. A problem arises when one wishes to study the effects of long delays of punishment on persisting and repetitive responses because the punishment delay interval is confounded both with duration of consummatory behavior and with amount of reward. Nevertheless, it is not to be avoided; it is interesting because it approximates many "real-life" uses of punishment.

Eighteen beagles were divided into three groups: Group I, 0-second delay of punishment; Group II, 5-second delay; Group III, 15-second delay.

For 10 days, all dogs were given dry chow in their cages. Next, they were given a 20-day habituation period consisting of daily sessions in the experimental room, during which they ate chow freely from two food dishes while the experimenter sat quietly in a chair.

Next, daily "taboo training" sessions were begun. One dish contained meat, the other contained dry chow. All subjects were punished for eating meat. Punishment was a blow on the snout. Subjects of Group I were instantly swatted for touching the meat, Group II after 5 seconds, and Group III after 15 seconds. If the subject left from the meat after a swat and then recontacted it, punishment was reestablished. If the subject ate the chow, there was no further punishment; but if he returned to meat eating, he was punished with the appropriate delay.

After subjects regained lost weight, they were deprived of all food for two days, following which they were given "temptation-testing" sessions.

"Resistance to temptation" was measured by the number of days it took each subject to "break the taboo." Breaking the taboo was defined as touching the meat or carrying out the act for which the subject had been punished during taboo training.

The mean numbers of swats to produce taboo learning were 4.3, 3.0, and 4.3 for the 0-second, 5-second, and 15-second groups, respectively. The mean numbers of training days for taboo learning were 29.0, 25.0, and 36.5, respectively.

The mean numbers of test days to break the taboo were 16.3, 8.2, and .3, respectively, for the 0-, 5-, and 15-second delay groups.

There were striking qualitative differences between groups. The 0-second delay group, after one or two punishments, upon being put in the experimental room would slink, tails down, around the walls of the room, as far as possible from the food dishes and the experimenter. When they did approach the food area, they usually avoided the meat and approached the chow hesitantly, backing away before touching it. Once having touched the chow, they gulped it down, tails wagging. Early in training, when

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these subjects did "break" and touch the meat, their approach was slow, stealthy, and hesitant. Fearfulness was exhibited only during the approach and not during the eating. Late in training there were no signs of fear during the approach or eating.

The 15-second delay group, after a few punishments, ran into the room, tails up and wagging, sniffed at the meat, nosed or jumped on the experimenter, and then went to the chow and snatched a few pellets. Their behavior then changed. With tails down, they crawled behind the experimenter's chair or to one wall, urinated, defecated, ran to the water pan, circled the room, crawled on their bellies, wagged their tails tentatively, then took a few more pellets and retreated again. Late in training some subjects would eat meat for as long as 7–10 seconds, then eat chow. Fear was evident during the eating both of chow and meat.

The 5-second delay subjects showed less "eat and run" behavior. They were furtive, hesitant, and sometimes touched the meat without eating it before eating all the pellets. Fear was exhibited during approach to food and while eating it.

This experiment is a prototype for a particular kind of socialization technique. An unwanted act is punished, but if there is a delay of punishment it is confounded with duration of consummatory behavior and amount of reward. This confounding is crucial in producing the phenomena we have seen: the furtiveness and unreliability of dogs trained with long delays of punishment, the great superiority in resistance to temptation manifested in dogs trained with a short delay of punishment. It is assumed that the mechanisms producing the complex pattern of results are identical for dog and human socialization.

Role of Ribonucleic Acid in the Process of Retaining Temporary Connection

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The role of ribonucleic acid (RNA) in learning and memory is being studied more and more. As a rule, the dynamics of forming and retaining different conditioned reflexes serve as the criteria of memory. There are two points of view on the role of RNA in memory. One considers that RNA molecules code new information directly, the other that RNA only participates in forming and retaining temporary connections. To test the hypothesis on the role of RNA in these processes, conditioned reflexes are studied after ribonucleic acid is destroyed by ribonuclease.

Whether or not the effect of ribonuclease depends on the area of the brain into which enzyme is administered has not been studied. It can be considered a fact that the hippocampus is directly connected with the processes of memory. We decided to study the effect of ribonuclease on conditioned reflexes after its administration into the dorsal part of the hippocampus and the motor and visual zones of the cortex.

Experiments were carried out on 12 adult rabbits in which alimentary conditioned reflexes to light were established. After conditioned reflexes had been established, cannulas were introduced into the dorsal area of the hippocampus and the motor and visual zones of the cortex. Conditioned reflexes were tested before and after administration of ribonuclease.

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The activity of the enzyme was determined by means of a quartz spectrophotometer. For control purposes administration of physiological solution and serum albumin, which is the closest in structure to ribonuclease, was studied.

Experiments with ribonuclease administered into the dorsal area of the hippocampus indicated that the conditioned reflexes were inhibited in 16 out of 20 cases. The extent of derangement depended on concentration of ribonuclease. In a concentration of 80 to 200 gamma, the conditioned reflex was restored after 1–2 days; in a concentration of 400, 500, and 1000 gamma it was restored after 3–4 days.

The effect of ribonuclease was shown by a complete disappearance of the conditioned reflexes as well as by a deterioration of conditioned reflex activity. In one experiment, absence alternated with presence of response with a greater latent period than previously.

In all instances when the conditioned reflexes disappeared, the general state and behavior of the animals (alimentary excitability, spontaneous motor activity) remain unchanged. Absence of the effect of ribonuclease is explained either by individual difference in the level of sensitivity of different animals or by location of the cannulas in different layers of the hippocampus.

When ribonuclease was administered into the motor area of the cortex, in only 3 out of 17 cases was the effect on conditioned reflexes observed; in addition, derangement of conditioned reflex activity did

not depend on concentration of ribonuclease. Conditioned reflexes disappeared when the enzyme was administered in a concentration of 300, 500, and 660 gamma, but there were no derangements at all with much higher concentrations (800 and 1000 gamma).

On the basis of data it is assumed that ribonucleic acid plays some role in the mechanisms of retaining a temporary connection.

It is significant that the nature of the effect of ribonuclease on conditioned reflexes after its administration into the hippocampus and into the motor and visual zones varies sharply. Administration of ribonuclease into the hippocampus directly inhibited conditioned reflexes, but when it was administered into the motor and visual cortex this effect was observed only in exceptional instances. It is interesting to compare the results of these experiments with our data on the effect of electric stimulation of the hippocampus and the motor and visual cortex. Inhibition of conditioned reflexes, which develops when the hippocampus is stimulated, is much more prolonged and intensifies as tension increases; this is not observed when neocortical structures are stimulated.

With regard to the mechanism of action of RNA in retaining the processes of a temporary connection, the fact that conditioned reflexes are restored after possible destruction of RNA by ribonuclease excludes the idea of the direct coding of memory by means of the RNA molecule, as assumed by other researchers.

Probably, RNA plays the role of a transformer of information, which is coded at the level of albumin. We have no opinion in this respect; however, we assume that ribonucleic acid plays the role of an agent elevating the general level of cellular excitability and by some means facilitating elaboration of conditioned excitation. This is substantiated by the fact that specific functions of motor and visual analyzers are deranged.

Finally, this assumption is supported by data on the general biological role of RNA. It is known that ribonucleic acid stimulates the regeneration process of the extremities of axolotis, improves cardiac function, and during critical periods of metamorphosis in arthropods increases the nuclear production of RNA.

Apparently, a definite optimal level of RNA is necessary for continuous protein synthesis. Probably protein plays a major role in the mechanism of learning and memory. In order to understand more thoroughly the intimate mechanisms of the processes, it is necessary to experiment further on the whole organism as well as at the cellular level with a combination of physiological, microbiochemical, and histochemical methods.

New Drug Trials

Two Pilot Studies of BC–347 in Chronic Schizophrenic Patients

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BC–347 (1-carbethoxy-1,2-dihydroquinoline) is structurally unrelated to available psychoactive compounds. Preclinical investigations showed "major tranquilizing" properties in many animal species. Hypotensive effects, probably caused by alpha-adrenergic blockage, were shown. The compound decreased spontaneous motor activity, inhibited conditioned avoidance in rats, produced catalepsy at high doses in rats, protected mice against d-amphetamine-induced disturbance, reduced body temperature in mice and rats, and potentiated the hypnotic effects of alcohol and hexobarbital. It did not have antiemetic activity in dogs.

The present trials were planned after toxicity studies in animals and human tolerance tests in normal volunteers showed no untoward side effects, apart from one case of orthostatic hypotension at a dose of 200 mg. The trials were organized and performed independently, using techniques that the investigators had found to be appropriate for their research units. The study carried out at Rockland State Hospital will be referred to as study I, and that performed at the New Jersey Neuropsychiatric Institute as study II.

All subjects were male chronic schizophrenics, in good physical health, and residents in the Early Clinical Drug Evaluation Units of their hospitals. Ten patients took part in study I. Of an original group of 14 patients in study II, two were dropped in the early stages of the trial because their behavior could not be controlled on BC–347; the length of hospitalization in study I ranged from 5 to 27 years, mean 13, standard deviation 6.4; in study II, the range was 5.5 to 26 years, mean 13.5, standard deviation 6.4. All patients were taken off other medication at least four weeks before BC–347 was given. During this period, behavioral, physiological, and laboratory evaluations were performed. Drug administration was continued for 12 weeks, except for one patient in group II who was withdrawn from the study because of lack of therapeutic response after 10 weeks; final ratings were obtained at this time.

In study I, four patients started at 10 mg. BC–347 daily, with increases, if made, of 20 mg. per day each week for six weeks. The remaining patients started four weeks later at 25 mg. daily, increasing to 50 mg. daily in the 2nd week, and by 20 mg. daily each week thereafter. Maximum doses ranged from 110 to 250 mg. daily. The daily doses at which maximum rating of improvement was first given ranged from 20 to 230 mg.

In study II, all patients started together at 5 mg. daily; this was increased by 5 to 10 mg. daily every three or four days during the first month and more slowly afterwards.

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Ten of the 12 patients reached a maximum dose of 200 mg.; the other two reached respectively 100 and 125 mg. daily only.

Rating scales in both studies were the Brief Psychiatric Rating Scale (BPRS), Inpatient Multidimensional Psychiatric Scale (IMPS), and the Nurses Observation Scale for Inpatient Evaluation (NOSIE). The nurses in study II also used the Psychotic Reaction Profile (PRP) before and after the study. Global clinical ratings were obtained in both studies. Weekly evaluations on a scale of clinical improvement were made in study I after two psychiatrists interviewed the patients and discussed their behavior with the research nurses and attendants.

The assessments in study I suggested that one patient became worse, one showed moderate and eight minimal improvement when maximum benefit was reached. At maximum dosage one patient was worse, three unchanged, and five showed minimal and one moderate improvement. The psychiatrist's global ratings of improvement in study II indicated that four patients became minimally worse, five were unchanged, and three minimally improved. The findings in both studies suggest only a low degree of therapeutic efficacy when compared to previous trials of new drugs in the same patients.

These studies make plain the difficulty of predicting useful clinical antipsychotic activity from the results of animal behavioral screening. Inhibition of conditioned avoidance behavior in animals appears to be necessary for antipsychotic activity in man, but, as these studies demonstrate, it is not in itself adequate for the prediction of useful activity. One may speculate that the inhibition of conditioned avoidance in animals might be analogous to the decrease in irritability seen in the patients. This drug, which on the basis of preclinical screening was expected to show major tranquilizing activity, had in fact a low degree of antipsychotic effect. Although side effects were of moderate degree, they were enough to outweigh the beneficial behavioral effects.

Molindone, A New Type of Antipsychotic Drug

JACK SHELTON, JOHN J. PRUSMACK, and LEO E. HOLLISTER

Molindone (3-ethyl-6,7-dihydro-2-methyl - 5 - morpholinomethylindol-4 - (5H)-one hydrochloride, EN-1733A) represents the first of a series of indolic derivatives with potential antipsychotic and antidepressant effects. The former include suppression of activity, conditioned avoidance behavior, and amphetamine-induced sterotypy, as well as frank sedation in dogs and monkeys. The increase in blood pressure following epinephrine injection is blocked by the drug, although to a considerably less degree than by chlorpromazine, suggesting less of a hypotensive effect. Antidepressant properties are suggested by antagonism of tetrabenazine ptosis and potentiation of certain effects of dihydroxyphenylalanine and sero-

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tonin. Antiemetic and analgesic actions have also been described.

A clinical study in 11 chronic schizophrenics has confirmed the anticipated presence of antipsychotic effects. Thirty hospitalized male psychiatric patients were studied, 24 with a diagnosis of schizophrenic reaction, four with depressive syndromes, and two with anxiety and depression. The majority were new admissions or admitted within 6 months. The latter were considered to have enough residual symptoms so that an appreciable degree of improvement might be possible.

Following a preliminary workup, patients were usually started on a dose of 5 mg. molindone, once or twice daily, with increments of 5–10 mg. daily, and with most patients receiving a dose of 50 mg. on the 10th day. In some cases this dose level was not attained; in others it was further augmented. The dose varied between 30 and 300 mg. daily, with a median maximum dose of 60 mg. The duration of treatment varied from 3–11 weeks, except for three patients who were terminated after 10 days. Most patients were treated for four weeks or longer. Evaluation was made by a mental status examination based on interviews with two psychiatrists making independent ratings. The Brief Psychiatric Rating Scale (BPRS, 18-item version) was used for coding these interview ratings.

Responses of schizophrenic patients were of greatest interest. Five patients became worse, six were unchanged, two were slightly improved, six moderately improved, and five markedly improved. Of the six nonschizophrenic patients, the only one much improved was a patient with a manic-depressive reaction, depressed. The two anxious patients were moderately improved, probably more than attributable to hospitalization alone.

Considering individual symptoms and signs, none were outstandingly changed. Symptoms of grandiosity, mannerisms, hallucinations, and unusual thoughts were most favorably affected. These are psychotic symptoms and tend to confirm the fact that the drug has definite antipsychotic effects. Symptoms of somatic concern, anxiety, guilt, tension, and depression, were slightly benefited.

We attempted to classify patients into paranoid, core schizophrenic, and depressed profile types. No indications of differential response of these subtypes were detected, although the relatively small sample would mitigate against showing other than large differences.

In dealing with a relatively new drug, uncertainty about the proper dose or duration of treatment may raise questions about the results. To determine whether or not the dose level was important, nine patients who received the highest maximum doses were compared with eight who received the lowest doses. The mean BPRS total pathology change score for the first group was 26, for the second, 14. It appears that higher doses might be more beneficial. One must bear in mind, though, that patients with the lowest tolerance for the drug were usually those who responded most poorly and that low tolerance may always be a limiting factor for some patients. To determine the effects of duration of treatment, 11 patients treated with the drug for periods of seven or

more weeks were compared with 13 who received treatment for only three or four weeks. The former showed a mean BPRS total pathology change score of 12, the latter 20. Duration of treatment was not a strong determinant in the result obtained, provided the drug was tolerated.

The predominant side effect was restlessness. Sometimes, akathisia appeared at low dose levels and persisted despite concurrent use of antiparkinsonism drugs. Two patients had orthostatic hypotension. Other symptoms were drowsiness, insomnia, blurred vision, mental confusion, and a questionable skin rash. Two patients had borderline elevations of the SGPT levels, and one, a sporadic elevation in alkaline phosphatase activity. Electrocardiograms were unchanged, even with large daily doses.

Although this study confirms the earlier trial in showing that molindone has antipsychotic activity, our results were somewhat poorer. The previous study used chronic schizophrenic patients continually hospitalized, while the present study used mostly newly admitted patients. Perhaps the drug is more suitable for the former group.

The addition of a new chemical class of drugs with antipsychotic activity to the six classes already known is of considerable interest. The possibility exists that patients refractory to older classes of drugs may be benefited by newer ones. Still, with the exception of the phenothiazines and the closely related thioxanthenes, clinical acceptance of other types of antipsychotic drugs has been poor, largely because so many of the others have the strong propensity to evoke extrapyramidal syndromes and akathisia. Whether the advantages of molindone for selected patients outweigh the handicap of the predominant side effect still remains to be determined.

Department of Behavioral Science

EVAN G. PATTISHALL, JR.

Through the ages, physicians have insisted that they must pay attention to the behavior of their patients in order to diagnose and treat most diseases. We can describe the structure of the hemoglobin molecule and genetic code of life, yet we are unable to understand the etiology of schizophrenia, relationship between anxiety and depression, or long-term effects of stress on the physiology and life-style of our patients. This does not imply that we should discontinue research and treatment on the "killer diseases" or abolish inquiry into the molecular structure of life, but it does mean that we should recognize that we have a grave imbalance in human biology and that we must increase our efforts to understand behavioral, emotional, and cultural components.

A department of behavioral science was proposed in 1965 as a basic science department in The Pennsylvania State University College of Medicine. Behavioral science is being integrated into medicine as a basic science discipline in its own right.

We are emphasizing that human biology is incomplete if we deal only with mechanisms and molecules. Man is a social, thinking, creative, and ethical being who must function in the context of totality and meaning. It is important that the medical student grasp and learn to work with the concept that the disruption of any of these human characteristics will influence the basic physiology which can then result in a disorder requiring the need for medical care. Likewise, the development of disease or physiological imbalance will express itself in terms of behavioral change.

The human organism relies on behavior as a means of reestablishing homeostasis, whether we are dealing with a biological or social imbalance. The water-drinking behavior of the diabetic is an attempt of the organism to use behavior as a means of reestablishing homeostasis in the biological environment. The depressive reaction of the worker who has been replaced by a computer can be seen as a behavioral response to his external environment. Behavior must be viewed by the physician as his major cue to what is going on both within the organism and outside the organism.

The department at the College of Medicine is organized as a multidisciplinary department, reflecting teaching and research skills from the biological and social sciences. Faculty consists of individuals representing psychiatry, social psychology, medical sociology, and anthropology, primatology and physiological psychology, educational psychology, and general medicine. Each is trained in his own discipline, and often trained in more than one.

We are expecting to add faculty in behavior genetics, ethology, psychosomatic medicine, behavioral biology, and neuroendocrinology. Several other disciplines would be desirable, but the above disciplines represent some of the areas where the most exciting work is going on in the study of behavior.

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The major charges of our department are:

1. To integrate the disciplines most related to behavior and to synthesize a body of knowledge on basic human behavior since there is no readily available or synthesized body of knowledge, as in the other basic science disciplines.

2. To teach the basic principles of human behavior, especially as they are related to medicine. This course serves as a foundation to all fields of medicine and integrates some of the other basic science knowledge, but with a special focus on human behavior. It also involves teaching during all four years. We offer special seminars in primate behavior, behavioral and physiological correlates of stress, the nervous system and behavior, health, illness and culture, special topics in the behavioral sciences, and research problems.

3. To conduct research with emphasis on bridging between disciplines, but with primary focus on animal and human behavior. There is much exciting research going on within the behavioral disciplines, but some of the most exciting breakthroughs have occurred at the interface between the disciplines.

Research projects underway include investigation into the natural history of schizophrenia, psychosocial factors in congenital heart disorders, characteristics of repeaters in juvenile delinquency, influence of ward milieu on patient behavior, role of motivation and achievement goals on learning and patient behavior, prognosis of underachievers and overachievers in medical students, a survey of the health status and patterns of health care in a community, role of folk medicine in health practices, influence of maternal deprivation on the social development of primates, age effects of brain lesions on behavior, and behavioral correlates of disease.

Special mention should be made of the department of humanities and department of family and community medicine. Human value systems, historical perspectives, and religious concerns are recognized as important determinants of behavior, and the actual "laboratory" of the patient and his family is providing the medical student with an increased understanding of the relation between social behavior and illness.

If we are going to advance our knowledge of the relationship of human behavior to illness and health, we must both teach the basic information about behavior relevant to medicine and energetically pursue research to develop the science of human behavior.

Mental Health News Digests

Epidemiological Field Station of Kansas City

The Epidemiological Field Station of Kansas City was established in July 1967. Operated under a contract with the National Institute of Mental Health by the Greater Kansas City Mental Health Foundation, it is the first such field station in the U.S. The NIMH has proposed that a network of Field Stations be established in the U. S. for the epidemiologic study of trends in emotional and psychiatric illness, patterns of service delivery, and utilization and effectiveness of treatment modalities.

A primary and urgent goal of epidemiologic research in mental health is to develop, in a systematic and comprehensive way, information about a community's mental health needs and problems, in the ecologic settings in which its people are served by hospitals, centers, and other service facilities. Such information is necessary to identify the most productive methods for rehabilitation of the patient and correction of his environment and to plan programs for the effective delivery of high quality services to the community.

This information must be obtained through extensive field studies, often carried out over a prolonged time span.

The Kansas City Field Station is developing a 10-year study plan that will include surveying:

Physical, economic, historical, and other characteristics of selected geographical areas of Greater Kansas City;

Economic, social, educational, cultural, and other characteristics of the population of these areas, as well as the prevalence of different types of emotional disabilities;

Total mental health service utilization in selected parts of Greater Kansas City;

Patterns of mental health care in selected public and private treatment agencies;

Outcomes of such care for selected types of patients;

Costs of different types of mental health services;

Relationships between the mental health facilities and other human care agencies, such as private physicians, courts, family, counseling services, and other social service agencies.

The Epidemiological Field Station of Kansas City is located at 600 East 22nd St., Kansas City, Mo. 64108.

NAMH's Role with the Poor

The Board of Directors of the National Association for Mental Health has adopted a statement emphasizing the Association's role with the poor. The statement points out that this emphasis does not change the NAMH's program, but it does demand work on the harder problems first. The following immediate actions were called for:

1. In each of our program emphases (services to hospitalized patients, community mental health services, mentally ill children, and rehabilitation), the Association will give attention to those who need help the most. For instance, in our efforts to bring about community mental health centers, we accept the obligation to see to it that priority goes to centers in deprived areas.

2. Each council and committee at the Association will evaluate its activities and commitments in the light of these recommendations.

3. We will be particularly concerned that there is rapid expansion of children's services to deal with the increasing problems of mental illness among children and adolescents.
4. In the Association's basic information and referral program, greater attention will be paid to providing information and referral in those areas where bridges to service are hardest to cross.
5. The president of the Association will assemble a committee of advisers from among those most knowledgeable and involved in these areas to advise us on the implementation of these goals.
6. A national workshop on the uses of new persons and jobs to deal with the manpower crisis will be convened, and special attention will be given to the development of new services and imaginative uses of traditional services.
7. We will immediately initiate a survey of current efforts by our local affiliates and by other organizations to determine which programs should be expanded and which merit duplication throughout the Association.
8. In our current study of prevention of mental illness, we will look fully into all aspects of the special needs of the poor.
9. Our legislative and social action program will seek effective legislation at all levels of government to provide appropriate support to organized efforts to improve housing, to provide job training and educational opportunities, to establish realistic and positive welfare programs, and to assist in other practical ways to break the cycles of discrimination and poverty.
10. In recognition of the fact that we cannot alone do all that needs to be done, we will work with other responsible organizations toward the achievement of these goals.

Psychiatric Services for Those Unable to Pay

The Council on Mental Health of the American Medical Association has issued a statement on "Psychiatric Services for Those Unable to Pay." The statement concludes that:

Long-term support should be available, rather than short-term funding;
Attention should be given to review mechanisms for program evaluation;
Funding resources shoulud focus on needs of the patient, not on bookkeeping of the dispensing agency;
The diversity of service patterns offers opportunities for research into methods of patient care, and such efforts should be encouraged;
Psychiatric services should be provided in combination with general medical services;
Psychiatric services and/or consultation should be available to nonmedical services such as schools, courts, welfare and law-enforcement agencies, etc.;
Public agencies and the medical profession should work toward development of appropriate payment for professional services;
Attention should be paid to current disparities in distribution of physicians and health personnel, and to developing services and facilities in professional environments that attract competent personnel;
Services should not be designed to meet only the health needs of the poor; they should be linked to the community's total health-care system. The objective must be first-rate care for all citizens.

The statement is based on a report of Special Ad Hoc Subcommittee whose members were Drs. Lloyd Elam, Joseph English, M. Ralph Kaufman Stuart C. Knox, Frank Luton, Julius B. Richmond, and Lauren Smith. Copies of the 4-page statement may be obtained from the AMA Council on Mental Health, 535 N. Dearborn St., Chicago, Ill. 60610.

Services for Adolescents in a Union Mental Health Program

The Mental Health Development Center in Los Angeles was started in 1966 by Retail Clerks Local 770. It is organized into three departments: Adult Service, Parent-Child Center, and Youth Development Center (YDC).

The YDC serves the adolescent and young adult population of the union. It was developed because these young people have special problems of their own and are

often subjected to pressures that require professional attention. A wide variety of treatments and counseling are used: individual and group psychotherapy, family psychotherapy, educational remediation, vocational counseling, and psychological diagnostic testing.

When the program first started, most requests came from young adolescents with problems of socialization, but now many requests come from older youth with school and marital problems.

Additional information about the Center may be obtained from Philip S. Wagner, M.D., Mental Health Development Center, 1515 North Vermont Ave., Los Angeles, Calif. 90027.

Multicultural Training for Educational Administrators

Seventeen educational administrators have completed a special doctoral program at the University of New Mexico, Albuquerque, in which they were trained to meet the complex and diverse problems of multicultural communities.

The principal objective of the program was to prepare a cadre of highly trained administrators who, through sensitivity and understanding, would develop and promote educational programs in the Southwest that would promote mental health. A secondary objective was to explore new methods of training educational administrators in order to revise and improve present educational administration programs.

The entire State was used as a "natural laboratory" for investigating the special problems of a society composed of Indian-American, Spanish-American, and Anglo-American subcultures. Trainees conducted field studies in such areas as community power structure and dominant community beliefs and the relationship of religious, economic, social, and political factors to behavior.

The trainees, who received a Ph.D. in Education upon completion of the program, are currently involved in planning and directing service and research programs, teaching, and administering educational programs in a variety of settings. The project director is Professor Patrick Lynch of the Educational and Administrative Services Department.

Mental Health Training for Judges

Since its inception over five years ago, the Institute of Psychiatry and Law at the University of Southern California, Los Angeles, has conducted 25 series of mental health seminars for the judiciary in California. Nearly 700 judges from the municipal, appelate, and supreme courts of California have participated.

The objectives of the Institute have been to develop a greater awareness in the judiciary of psychiatric principles and issues involved in law, demonstrate the influence of this increased awareness upon judicial operation, and relate the field of psychiatry to contemporary social values through the legal system.

Subjects of concern have included social deviancy, the drug offender, alcoholism and the alcoholic offender, the sexual offender, the psychiatrically disturbed defendant at pretrial, and the relationship of psychiatric data to legal evidence.

More than 60 percent of the program has dealt with the psychiatric evaluation of juveniles and with

the psychiatrist's role in juvenile court proceedings.

Training for Marriage Counseling

Intensive postgraduate training in marriage counseling is now being offered at the University of Minnesota's Family Study Center in a five-year project, now in its final year.

Each year the program provides concentrated education in marriage counseling to six trainees whose profession normally calls for such skills. Participants must have completed their basic professional training in a field such as psychiatry, clinical psychology, the ministry, law, or social work. The program includes formal instruction, supervised experience in marriage counseling, and involvement in a broad range of related professional activities.

Trainees participate in seminars dealing with the psychology of marriage and marriage counseling theory. They also undergo sensitivity training in which the student attempts to improve his perception of himself and his sensitivity to the communications of others.

To gain practical experience, trainees work two days each week at a local agency such as the University Student Counseling Bureau, adult outpatient psychiatric service, family counseling service, or domestic relations division of the county court.

Twenty-four professionals have been trained to date. They report that their specialized training has enabled them to initiate new counseling services, and to improve existing ones within their home agency setting.

Psychiatric Training for General Physicians

The Ohio Academy of General Practice has initiated a seminar in Columbus, Toledo, Akron, Van Wert, and Mt. Vernon for physicians from a variety of urban and rural communities. The purpose of the program, which is also sponsored by the Ohio Psychiatric Association and the Ohio Medical Association, is to provide useful, case-centered psychiatric training to physicians in their local hospitals.

Project goals include establishing minimum standards for a basic training program in psychiatry for family physicians and setting up an administrative structure that will provide for continuation and expansion of the program throughout the State.

The program consists of two 30-session courses that meet as weekly two-hour seminars under the direction of a psychiatrist. Basic emphasis is on the identification, modification, and prevention of mild and moderate emotional illness. The first course focused on family-oriented basic psychiatry in medical practice; the second course stresses psychiatric patient management and psychotherapy appropriate to the functions of family physicians.

Attendance has exceeded 90 percent in four of the five cities and almost all the physicians plan to attend the advanced course. It is anticipated that within the next few years more than 10 percent of the nonpsychiatric physicians in Ohio will have participated in the program.

The project director is Dr. Alford C. Giller.

Continuing Education for Social Workers

Continuing education for employed social workers is now underway in a program at the University of Boston School of Social Work. The program is aimed primarily at professional (those with MSW degrees) and nonprofessional social workers who, although they are employed, would benefit from courses dealing with current problem areas such as poverty and social welfare trends.

The program is also designed to meet the needs of social workers who are interested in furthering their education, but who are not interested in the Master's degree program, who do not meet its requirements, or who want courses the degree program does not offer.

Social workers who already have a Master's degree but have not worked in the field for some years, graduates of schools which did not offer courses in areas now needed, and social workers interested in new developments in knowledge, social problems, and practice are also enrolled in the program.

Some nonprofessional social workers who, according to project officials, are in a "professional no-man's land" are taking courses to increase their knowledge of the field as well as to strengthen their professional identity and security.

Now in its first year, the Boston program is also being used as a basis for developing theories and teaching materials which can be used in future continuing education programs, both at Boston and other universities. In conjunction with this, project officials are surveying social work training needs and interests in the Boston region and will plan future continuing education programs with these needs and interests in mind.

This continuing education program represents an expansion of the University's Annual Social Work Institute. Professor Louise Frey is project director.

Program To Train Ghetto Youths

A demonstration program to train young ghetto youths as mental health aides has become the basis of a nationwide program to train pre-professionals for public service jobs. More than 5,200 youths, who were either unemployed or living in poverty, have begun training in 22 States in the New Careers Program of the Department of Labor.

The program was conducted at Baker's Dozen, a Washington, D.C. youth center connected with the Institute for Youth Studies at Howard University, where nine young men and women were trained for mental health work in their local neighborhood.

The trainees, ranging in age from 17 to 21, were screened in, not screened out; normal bars to employment were not raised. For example, only a fifth-grade education was required—and this only to insure that participants could read. Neither previous work experience nor a clean police record was necessary.

The program aimed at training aides to plan and lead groups of 10 disturbed children, to help develop therapeutic programs for the groups (with the help of a trained professional), to observe and record group behavior, and to keep records of these observations.

The aides attended group seminars, in which methods of social action were discussed, and specialty workshops in interviewing, history taking, group observation,

and psychological testing and recording techniques. On-the-job training was also an integral part of the program. Trainees visited community agencies, juvenile court, a psychiatric hospital, a children's residential home, and other institutions. The trainees, who all lived within five blocks of the center, also interviewed people in the neighborhood to get ideas about community needs.

Success of the project shows that deprived youths can be trained as aides and, furthermore, can do the work successfully. Although levels of efficiency varied, all the aides performed acceptable work.

The project was double edged: it helped a group of poverty-inhibited and disadvantaged adolescents, who in turn provided a significant mental health service to the community. The Baker's Dozen program was less expensive—more efficent—than could be given through a program using only professionals.

The project was directed by Dr. Jacob Fishman of the Institute for Youth Studies.

Training Therapeutic Nursery School Teachers

Cedars-Sinai Medical Center in Los Angeles is preparing teachers to work with emotionally disturbed pre-schoolers.

The program offers a year of training to individuals who have taught nursery school but wish to gain specialized experience with psychologically handicapped children. In a clinical environment, two therapeutic nursery schools operated by the Cedars-Sinai Department of Child Psychiatry, the teachers are taught about psychodynamic factors operating within disturbed children and their families. Simultaneously, they learn to introduce special therapeutic techniques into the classroom.

The trainees also observe therapy sessions, accompany staff members on consultation in the community, attend parent education meetings, and receive other forms of training.

Formal class instruction is provided at the Center for Early Education, a college which offers the B.A. degree in nursery school education. Through affiliation with this Center, the six trainees who are graduated annually from the program receive college level academic credits.

Graduates of the program currently work as teachers and consultants in schools serving disadvantaged youngsters, directors of Head Start programs, head teachers, and trainers of teachers. The program is developing as a training model which can be used in other communities.

The project director is Dr. Saul Brown.

Mission to Moscow

Chronic care facilities in the Soviet Union are generally better than those found in the U. S. This is one conclusion of a group of American mental health authorities who completed a three-week tour of mental health facilities in five Russian cities.

One of the more striking differences between the Soviet and U. S. system seems to be in the definition of a chronic mental patient. The Soviets tend to consider mental patients chronic only when they have completely lost their capacity to be productive to society, while we tend to use frequency of hospital admissions and length of hospital stay as criteria.

The Soviets do not place a great deal of emphasis on relapse or readmission rates; they look upon mental illness as a relapsing disorder during which rehospitalization may be an expected, and, in fact, necessary experience. Because of this attitude, they try to return patients to the community as rapidly as possible; even very severely impaired patients are often hospitalized only six to eight months.

Favorable staff-patient ratios account for one of the biggest differences between the two systems. Some facilities visited by the mission had virtually a one-to-one patient-staff ratio. Official Soviet mental hospital regulations stipulate one physician per 25 patients on acute wards, one for each 40 on chronic-disturbed wards, and one per 80–100 on chronic-quiet wards.

A third impression of the mission was that Soviet facilities are very well maintained and kept as cheerful as possible. Wards and patients were clean and fresh; patients' clothing was kept clean. Cut flowers and pictures as well as radio and TV sets were found in most day halls; these halls also lacked the characteristic odor found on many wards for geriatric and chronic deteriorated patients in the U. S.

Another major difference was in the attitude toward psychiatric services and therapy. The Soviets rate chronicity on the patient's ability to work. Thus, the less able one is to work, the more chronic he is. The aim of Soviet rehabilitation is to make the patients employable and able to be maintained in the community. All patients who are able participate in some form of work therapy. Virtually every type of psychiatric service and facility has an active workshop program. All Soviet workshops are run on a "profit making" basis and every item produced is intended for use. Seventy percent of the funds from sale of workshop items revert to the hospital for improvements and 30 percent go to the patients.

There are in a sense two systems for the care of chronic patients in the Soviet Union. Only about 10 to 15 percent of the severely mentally disabled are institutionalized. Most are maintained in the community. Less chronic patients are rehabilitated in psychiatric facilities but severely chronic patients for whom little hope is held are transferred to specialized facilities, Homes for Invalids. One-third of all psychiatric beds in the U.S.S.R. are located in these homes. Such facilities are under the jurisdiction of the Ministry of Welfare while other psychiatric facilities are under the Ministry of Health. The apparent lack of communication between these two ministries was one criticism the mission had of Soviet mental health care for chronic patients.

Patients who are able to remain in the community receive services through a neuropsychiatric dispensary or the district polyclinic. Home visits are also made and guardianship arrangements are fairly common.

Although the mission noted large hospitals, obvious examples of overcrowding, deficiencies in training and research, and differences concerning treatment modalities and techniques, the mission concluded that it is difficult to find fault with the Soviet's overall approach to the problem of chronicity.

Members of the delegation were: Stanley F. Yolles, M.D. (chairman),

Director of the National Institute of Mental Health; Walter E. Barton, M.D., Medical Director of the American Psychiatric Association; David L. Bazelon, Chief Judge of the U.S. Court of Appeals, Washington, D.C.; Mike Gorman, Executive Director of the National Committee Against Mental Illness; Alan D. Miller, M.D., Commissioner of the New York Department of Mental Hygiene; Phillip L. Sirotkin, Ph.D., Associate Director for Program Coordination, National Institute of Mental Health; and Harold M. Visotsky, M.D., Director of the Illinois Department of Mental Health.

Cooking Project at Saint Elizabeths Hospital

A cooking class organized and directed by a volunteer at Saint Elizabeths Hospital in Washington, D.C. has again vividly demonstrated the value of work activities in mental hospitals.

The project was carried out on the Saint Elizabeths' Godding Service, a complex of three buildings for some 700 chronic female patients and encompassing 13 wards. When the volunteer began, there were no work activities as such on the Service.

The first class was held in October 1967. It was made up of 10 patients, most of whom had ground privileges and who had been in the hospital from eight to twenty-five years. At the first class the patients were "bathed in lethargy."

After seven months of work, the class "abounds in activity." The table is set, and there is much activity such as onion chopping, carrot scraping, preparation of meat, and mixing ingredients for cakes and other desserts. The meal planning is flexible; if a patient wants to create a dish or wants to have fried chicken instead of baked chicken, then fried chicken it is.

Of the women present each week there are some who do little or no work. However, the nursing supervisor maintains that their presence amidst activity is beneficial to them.

Sometimes visitors are invited to dinner. These visitors, mostly staff members, are usually known to the patients who seem happy to have guests enjoying their culinary creations. Even their table manners improve under these circumstances.

The class is now an established activity in the Godding Service. The project was begun by Mrs. Frances L. Eyster, while on a temporary assignment with the NIMH Citizen Participation Branch.

Mental Health Developments in Maryland

Maryland's Comprehensive Intoxication and Alcoholism Control Act became effective July 1, 1968, thus making Maryland the first State with statutory policy that alcoholics are sick people, not criminals. A Division of Alcoholism Control has been established in the Department of Mental Hygiene to implement a major section of the legislation.

A program for recruits of the Baltimore City Police Department was started by staff of the Sheppard and Enoch Pratt Hospital, Towson. Subjects included in the seminars are management of people with psychiatric problems, characteristics of potential suicides, and problems of sex deviation and narcotic addiction. The program is similar to one that the Hospital has provided for the past three years to Baltimore County police recruits.

In Baltimore it is now illegal to sell airplane glue and products containing carbon tetrachloride to persons under 21. The bill provides for a fine of $100–500 and a jail sentence up to six months for violators; this includes merchants selling the glue or persons under 21 caught sniffing glue or having toxic glue in their possession.

A report, "Mental Health and Mental Illness in Maryland," has been issued by the Department of Mental Hygiene. It covers a wide range of topics, including Maryland's mental hospitals four years after desegregation; employee-patient ratios; patterns of retention, release, and rehospitalization; length of hospitalization; the senior citizen; voluntary admissions; diagnostic admission trends; the hospitalized narcotic addict; the alcoholic patient; the mentally retarded in psychiatric hospitals; the hospitalized mentally subnormal; patient mortality; suicide; accidents; mortality among alcoholics; mental health of the Negro; problems of the inner city; problems of the rural county; privately operated psychiatric hospitals; and a report to the 15 Southern States. The address of the Department is 301 West Preston St., Baltimore, Md. 21201.

National Association of Psychiatric Technology

The National Association of Psychiatric Technology was formed 6 years ago in California. It is an organization of psychiatric technicians, psychiatric aides, and attendants joined together to improve the care and treatment of the mentally ill and mentally retarded through nationwide improvement of standards and opportunities for all who are employed in the field of psychiatric technology.

Its objectives are:

To encourage, establish, and maintain professional competence throughout the U.S. and elsewhere for persons engaged in the practice of psychiatric technology, regardless of the name or skill designation by which such persons may be known.

To foster the continued scientific study by psychiatric technologists and related classes of new skills, techniques, and improved methods for the therapeutic care of the mentally ill and the mentally retarded.

To encourage the widest possible dissemination of information and guidance for education and training, and to establish national minimal qualifications for such education and training.

To cooperate and affiliate with other professional and lay organizations that are interested in mental health and to encourage and promote interest in the choice of psychiatric technology as a career.

To establish liaison with the U.S. Department of Health, Education, and Welfare; Veterans Administration; and the departments of public health and mental hygiene within the States. To foster and encourage national and international research and education in the field of psychiatric technology and to provide instruction and other leadership in such programs.

To sponsor accredited courses in psychiatric technology with appropriate academic credit in such a manner as to encourage full promotional opportunities.

The address of the Association is 11th and "L" Building, Sacramento, California 95814.

New Alcoholism Clinic in Georgia

The Macon-Bibb County Health Department opened in May 1968 the seventh local alcoholism clinic in the State of Georgia. Other clinics are located in Griffin, Rome, Dalton, Athens, Statesboro, and Columbus.

The purpose of establishing local programs is to reach the alcoholic in the early stages of the disease. The program will provide outpatient services to the alcoholic and

his family and will offer referral and educational services. Experience has shown that many alcoholics can profit from early treatment on a day-patient basis and avoid having to be hospitalized.

Currently involved in the Macon program are six ministers, a social worker, two public health nurses, a vocational rehabilitation counselor, a psychiatric consultant from Central State Hospital in Milledgeville, and a physician.

National Commission on Mental Health Manpower

The National Commission on Mental Health Manpower has been formed for the purpose of increasing the number of persons going into careers in the mental health field. The Secretariat of the Commission is Roche Laboratories.

Included among its goals is the issuance of recruitment material for the mental health professions. Publication of a *Mental Health Manpower Newsletter* was begun in April 1968.

TV Between Psychiatrists and General Practitioners

A two-way TV hook-up between psychiatrists and patients of general practitioners where there are few mental health resources is being implemented by Dartmouth Medical School. The hook-up will enable psychiatrists in the Hitchcock Memorial Hospital (attached to the Dartmouth Medical School) to do initial psychiatric evaluations of patients near Claremont General Hospital, 26 miles from Dartmouth. Listening to the interviews will also serve as a training device for the general practitioner so that he can better treat other patients with emotional problems.

A primary purpose of the project is to test whether or not a combined service-training approach will increase the diagnostic and treatment skills of general practitioners with psychiatric patients. If the closed-circuit television interviewing proves effective and does not interfere with the interaction between patient and psychiatrist, such TV hook-ups could be valuable aids to nonpsychiatric physicians living in areas where there are few mental health resources.

General practitioners in Sullivan County can call the Hitchcock Memorial Hospital for an appointment for psychiatric evaluation of a patient whom they feel has emotional problems. Immediate emergency consultation will be available around-the-clock. Follow-up after the initial interview will consist of further consultation, either with the general practitioner or with the patient or both, and necessary referral to other treatment resources. General practitioners participating in the program will take an intensive, one-week course at the Dartmouth Medical School Department of Psychiatry.

Some consultation for medical and surgical patients at Claremont General Hospital will also be available through the television service.

Innovations at Albuquerque

The Vista Larga Community Mental Health Center in Albuquerque, N.M. has several innovations in program development.

Among the innovative aspects of the center's program is flying a medical team, including a psychiatrist, cultural anthropologist, another medical specialist and an Indian interpreter, twice monthly from Albuquerque 175 miles to Chinle, Arizona, where they are

joined by the tribal medicine man in treating Navajo Indians referred to treatment by medicine men. Patients from remote areas who cannot come to the clinic at Chinle are often treated in their homes by the team, which may travel by car, truck, or wagon to confined patients.

Another of the center's innovative treatment approaches is its concept of the "sustained contact team." This is a group of mental health workers which offers treatment and extended followup care, including home visits.

Since July 1, 1967, the center has treated nearly 9,000 patients. The catchment area, exclusive of the Navajos, contains 160,000 persons. Spanish-Americans, Pueblo Indians, and Negroes constitute a large portion of the center's catchment area population.

Bibliography on Culture and Alcohol Use

Culture and Alcohol Use, a bibliography of anthropological studies (2nd edition) has been compiled by Robert E. Popham and Carole D. Yawney. Containing 448 citations, the bibliography cites studies with an essentially anthropological orientation, i.e., studies concerned with drinking behavior in particular cultural contexts or with the theoretical implications of cross-cultural similarities and differences in such behavior. The bibliography was published and is distributed free by the Research Division, Addiction Research Foundation, 344 Bloor Street West, Toronto 4, Ontario, Canada.

The Addiction Research Foundation has established a bibliographic series as a service to those concerned with problems of alcohol and drug use. Other bibliographies in preparation are: An Annotated Bibliography on the Literature of Mescaline; a Guide to the Marihuana Literature; Combined Effects of Alcohol and other Psychoactive Drugs: An Annotated Bibliography; Psychoactive Drugs in Traffic Accidents: A Classified Bibliography; A Comprehensive Bibliography of the Literature on LSD; An Annotated Bibliography of the Literature on the Amphetamines; and Psychoactive Substances in Primitive Cultures: A Classified Bibliography.

Directory of Facilities for Mentally Ill Children and a Guide for Parents

The National Association for Mental Health has published a *Directory of Facilities for Mentally Ill Children* in response to the need of many professionals and parents for sources of referral and placement. The 137-page directory lists residential and day treatment and educational facilities that accept mentally ill children and render continual service distinct and separate from that provided to adults. Information is presented in such a way that a professional person making a referral or a parent seeking a particular type of service or location will be able to discover available resources to meet the unique and special needs of the mentally ill child.

Outpatient and child guidance clinics are not included, as the purpose of the directory is to provide information concerning services for children who are so seriously disturbed as to be excluded from schools and other community services for normal children.

A 34-page pamphlet—*The Mentally Ill Child—A Guide for Parents*—helps parents by summarizing present knowledge about childhood mental illness. It discusses services available to a child and his parents

and offers other guides to parents who need help and understanding in coping with the problems they face because of their child's illness.

Both publications may be obtained from State and local mental health associations or from the National Association for Mental Health, 10 Columbus Circle, New York, N.Y. 10019. Price: $2.50 for the Directory; 50 cents for the Guide.

Neurophysiological and Behavioral Research in Psychiatry

Neurophysiological and Behavioral Research in Psychiatry, WHO Technical Report Series No. 381, reviews the present status of research in neurophysiology and its application to psychiatry. It covers six fields: electrophysiology, conditioning and learning, sleep, psychopharmacology, etiology, and behavior therapy. The report emphasizes the multidisciplinary nature of the research and the necessity for a central agency to provide a variety of communication facilities.

Copies of the report may be obtained from Columbia University Press, 136 South Broadway, Irvington-on-Hudson, New York 10553, or from the World Health Organization, Distribution and Sales Unit, Geneva, Switzerland.

Mental Health Book Review Index

The *Mental Health Book Review Index* has issued Volume 13 (whole number 18), 1968. The *Index,* an annual list of books selected and reviewed by specialists and organized as a bibliography by librarians, aims at a synthesis of the significant monographic literature in the behavioral sciences.

Each annual index lists about 300 books with references to three or more reviews; at least one of the reviews cited is from a journal in psychology, psychiatry, or psychoanalysis.

The *Index* is sponsored by the World Federation for Mental Health, the International Council of Psychologists, and the Research Center for Mental Health, New York University. It is published annually by the Council on Research in Bibliography, Inc., c/o Research Center for Mental Health, New York University. The Council is a scientific and educational organization whose purpose is to pursue the scientific study of bibliography and to conduct research aimed at realigning bibliographic method with contemporary knowledge, literary form, and patterns of publication, especially through pilot studies in the behavioral sciences.

Subscriptions ($8.00 a year) may be sent to the Mental Health Book Review Index, Paul Klapper Library, Queens College of the City of New York, Flushing, New York 11367.

Health and Mental Hygiene Facilities Improvement Corporation

On June 1, 1968 the Mental Hygiene Facilities Fund of the State of New York became the Health and Mental Hygiene Facilities Improvement Corporation.

The Fund was created in 1965 to complement the Department of Mental Hygiene in the State's effort to insure that therapy, rather than custody, would become the central purpose of the State hospitals for the mentally ill and schools for the mentally retarded. The Fund has sought to achieve this objective by designing and building smaller community-oriented mental hygiene facilities and by adding facilities to existing institutions that will

enhance therapeutic activities. The program is financed through the sale of bond issues.

The change on June 1 added a construction and renovation program for hospital and related health care facilities to the two construction programs administered by the Fund. The two continuing programs are for the construction and renovation of facilities for the mentally ill and the mentally retarded, and for the treatment of narcotic addicts.

Children's Mental Health Exchange

The Montgomery County (Md.) Health Department in cooperation with the Mental Health Association has a resource for parents of children with emotional problems—the Children's Mental Health Exchange.

The weekly meetings are open to the public without charge. Participants do not need to give any identifying information, not even their names. The emphasis is on exchange of information, not on treatment. Those who need services are referred to appropriate sources.

The Exchange is similar to two other programs in the County: the Mental Health Exchange for discussion of all types of mental health problems and the Parents' Exchange for Problems of Youth for discussion of troubles of teenagers.

Work Therapy for Delinquent Adolescents

The effectiveness of an innovative program for rehabilitating disturbed, delinquent adolescents was summed by participants: "when you are working you get satisfaction out of it." This boy, and others like him, were not getting satisfaction from their school life and their behavior showed it. Many had arrest records and were disruptive in school. All were doing poorly in their academic work. These were the youths, aged 14 to 16, that the Work Therapy Program for Adolescent Delinquents at the Jewish Vocational Service in Milwaukee, Wisconsin, was designed to reach.

Boys were referred to the program by their school principal on the basis of delinquent behavior and poor achievement. They attended the workshop half-day and school half-day during a two-semester school year. They worked in groups of 20 to 30, collating and packing merchandise under contract to an outside firm. Initially they were paid 25 cents an hour, but their wages increased as their work improved. Daily and weekly bonuses were rewards for exceptional production. Those who misbehaved were "punished" by not being allowed to work and consequently were not paid.

The philosophy of the project directors was that real work experience in a structured setting would help delinquent boys develop a better self-image and relate better to the demands of society. They believed that achievement, reinforced by actual earnings, would give the boys the recognition and sense of "adulthood" that they sought. The goal was to make the boys aware that they could be productive in an environment that required discipline.

Most important to the success of the program was the presence and guidance of sympathetic adults—training supervisors and counselors—who were willing to help the boys with their problems. Not only were counselors on hand during workshop hours, but the boys met

with them in weekly individual and group sessions.

The project involved a number of persons concerned with the boys' welfare. Project staff worked closely with the county schools, 52 of which made referrals to the program. They also went out of their way to involve the boys' parents when specific problems arose. Cosponsors of the program included a number of community agencies such as the Metropolitan Crime Commission, United Community Services, and the Children's Court-Probation Department.

National Center for Mental Health Services, Training, and Research

A National Center for Mental Health Services, Training, and Research has been set up by the National Institute of Mental Health as a new concept in a community mental health center.

Under this Center will be (1) the Saint Elizabeths Hospital-Division of Clinical and Community Services, (2) the Seymour D. Vestermark Division of Intramural Training, and (3) the Winfred Overholser Division of Clinical Research.

The Saint Elizabeths Hospital Division will develop the Washington, D.C. "Area D" community mental health center on the 320-acre grounds of the 113-year-old hospital. The District of Columbia Department of Public Health will collaborate with the NIMH in operating the "Area D" health programs, including satellites in the central city area of Anacostia and Southeast Washington, with a population of about 150,000.

To guide the overall program, the NIMH will have an advisory body of prominent professional and lay persons. The NIMH will also seek the advice and aid of citizens of the area to be served.

The Division of Intramural Training will be the locus for all intramural training activities within the Institute to provide clinical and other types of training.

The Division of Clinical Research will continue and expand NIMH research activities through its own programs and through collaboration with the NIMH Division of Special Mental Health Research. The new National Center will provide support for special Institute research programs concerned with crime and delinquency, alcoholism, and suicide, which already have facilities at Saint Elizabeths.

Dr. Sherman N. Kieffer has been named Director of the new Center. Dr. Louis Jacobs will be Director of the Hospital Division and Superintendent of the Hospital, Dr. Donald Critchfield Greaves, Acting Director of the Division of Intramural Training, and Dr. Francis N. Waldrop, Deputy Director of the Center and Acting Director of the Division of Clinical Research.

NIMH Division of Narcotic Addiction and Drug Abuse

The National Institute of Mental Health has established a Division of Narcotic Addiction and Drug Abuse that combines all the Institute's activities in the field of narcotic and drug abuse. Included in the new Division are the Center for Studies of Narcotics and Drug search Center, and Fort Worth Abuse, Addiction Research Center, Narcotic Addiction Rehabilitation Branch, Lexington Clinical Re- Clinical Research Center. Dr. Sidney Cohen will be Director of the Division.

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answers

Questions that young people ask about marihuana, LSD, amphetamines, and narcotics are answered with current scientific evidence in four 8-page flyers.

Each presents, in question and answer form, a description of the drugs' effects, research findings, and current efforts to solve the problems of drug abuse.

Single copies of each flyer are available from the National Institute of Mental Health, Chevy Chase, Maryland 20015. Copies also may be obtained for 5 cents each —or $3.25 per 100—from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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